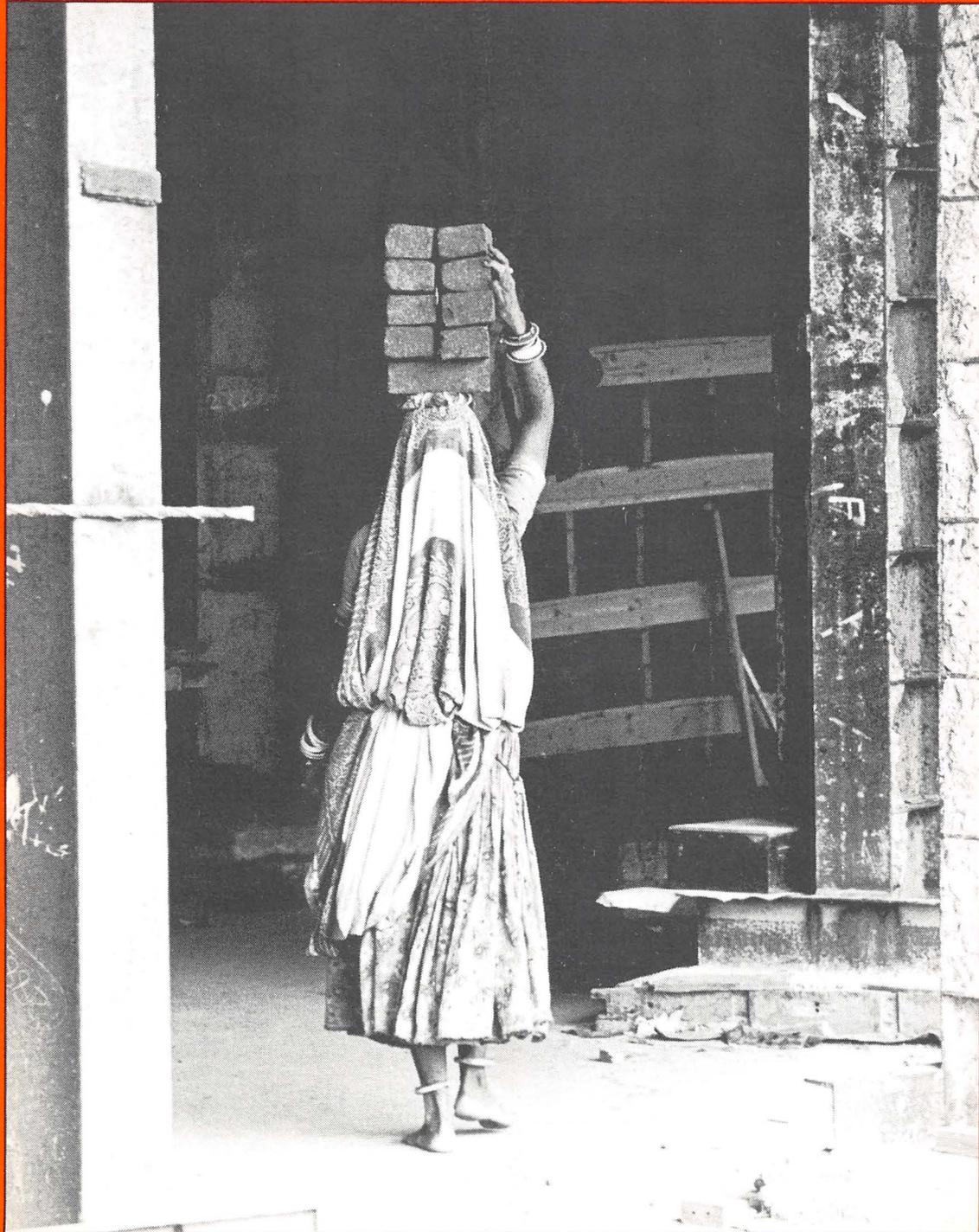


Bahá'í News

Bahá'í Year 143

June 1986

**India: The Temple
nears completion**



WITH HEAVY HEARTS ANNOUNCE MARTYRDOM THREE VALIANT SOULS IRANIAN BAHÁ'Í COMMUNITY. MR. SIRRU'LLAH VAHDAT-NIZAMI WAS EXECUTED BY HANGING 4 MAY 1986 IN TEHERAN. HE HAD BEEN IMPRISONED SINCE 13 FEBRUARY 1984. MR. FIDRUS SHABRUKH, 38, WAS EXECUTED BY HANGING 9 MAY 1986 IN ZAHIDAN. HE HAD BEEN IMPRISONED FOR A SECOND TIME SINCE 26 SEPTEMBER 1983. BOTH THESE FRIENDS HAD BEEN SEVERELY TORTURED MUCH OF THEIR TIME IN PRISON. THE THIRD VICTIM, FIFTEEN-YEAR-OLD PAYMAN SUBHANI TOGETHER WITH HIS FATHER, RUHU'L-AMIN SUBHANI, WAS TAKEN BY A GROUP OF FANATICS, ENCOURAGED BY OFFICIAL RELIGIOUS ELEMENTS, TO THE MOUNTAINS, WHERE THEY WERE BEATEN AND STONED. BOTH WERE PRESUMED DEAD AND THROWN OVER A CLIFF. ACCIDENTALLY A VEHICLE STRAYED INTO THE AREA AND FOUND THEM. THE FATHER, BARELY ALIVE, WAS TAKEN TO A HOSPITAL IN TEHERAN WHERE HE IS STILL IN SERIOUS CONDITION. THE SON, PAYMAN, WAS DEAD.

THESE CRIMES AFTER RELATIVELY QUIET PERIOD IN IRAN HAVE CAUSED CONCERN SAFETY, WELL-BEING IRANIAN BAHÁ'Í COMMUNITY. URGE SEEK PRESS PUBLICITY, INFORM OFFICIALS GOVERNMENTS, SEEK THEIR ADVICE.

UNIVERSAL HOUSE OF JUSTICE
MAY 12, 1986

On the cover: An Indian woman delicately balances a load of bricks to be used in constructing the Mother Temple of the Indian Subcontinent near New Delhi as preparations proceed toward its public dedication in December. Much of this issue of *Bahá'í News* is devoted to news of the lovely lotus-shaped House of Worship whose presence is destined to bring manifold spiritual bounties to that area of the world. We are indebted to *Bahá'í News India* for its splendid special issue of December 1985 from which much of these materials are reprinted. The superb photographs are by Mark Sadan.

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Bahá'í Year 143

No. 663

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‘I knew that God would guide me . . .’

Question: Every phase of the construction of the Temple must have had its own unique challenges in terms of architecture, design and engineering. Which stage was the most exciting to you?

Answer: I think the design period was the most challenging and exciting part of the project for me. To design a Temple which has cultural roots in the rich heritage of India and at the same time is compatible with the cardinal principle of the Bahá'í Faith, that is, the unity of religions—this provided a most unusual and remarkable chance for witnessing the power of Bahá'u'lláh's Revelation. I was looking for a concept that would be acceptable to the people of different religions that abound with such a rich diversity in India. I wanted to design something new and unique, at the same time not foreign but familiar in a way.

I visited hundreds of Temples all over India, not for architectural guidance but to discover a concept that would integrate the spiritual heritage of this sub-continent. I began without preconceptions—in a blank state. I imagined something that should be new and unique while at the same time old, familiar and comfortable, as the Bahá'í Faith is something which would be loved by the people of different religions. People should intuitively find some sort of relation to it in their hearts. This was the most exciting part of the project for me. The rest of the challenges were technical matters that somehow could be dealt with.

As I delved deeper and deeper into the cultural and architectural heritage of India, I became profoundly fasci-

This interview by Ali Merchant of Fariburz Sahba, the architect of the Bahá'í House of Worship near New Delhi, is reprinted from Bahá'í News India, Vol. 49 (December 1985).

‘I was looking for a concept that would be acceptable to the people of different religions that abound with such a rich diversity in India. I wanted to design something new and unique, at the same time not foreign but familiar in a way.’

nated by the task before me. I was concentrating and praying. I was convinced that God would guide me toward a such a concept, and it really happened. I have told this story before. Is it not strange that just by chance I had to change my route and go to a different place where a pure soul whom I had never met before was waiting to tell me about the “lotus.” And then I came across “lotus” wherever I went during my travels throughout India in search of the answer to my question. Certainly “chance” is not the right word; I should say “destiny.” When I think back and remember how I was guided step by step by Bahá'u'lláh, I feel so small in the presence of His grace. No doubt it was destined that the Temple be built in this shape.

Q: Can you name some of the significant technical challenges that you had to overcome to carry on the project?

A: It was a real challenge to translate every technical aspect of this highly complicated design into a viable one, particularly in India where concrete technology is not yet well developed. This was a major achievement. Many professionals were apprehensive whether we would be able to construct such a building in India, for they knew it would be difficult to find the necessary resources, technology, skilled manpower and equipment.

We had to do a lot of things here for the first time. A unique and complex concreting procedure was developed for this building. I am not aware of any other building which has used such methods. Also, many of the materials were used for the first time in India, for example, white concrete and galvanized reinforcement for the structure. This was made possible by meticulous studies, concentrated efforts, quality control and supervision.

You may imagine how difficult it is to concrete shells that are only 13 centimeters thick and 25 meters high—in one continuous operation, around the clock, during Monsoon or in peak summer season when the temperatures soar above 45°C (113°F). The design of the structure is such that there is not a single straight line in the building. Everything is in curvature, making every measurement a complicated procedure. The whole operation had to be carried out on the basis of thousands of geometric coordinates. Setting out of the geometry of thin shells, which some time were only six centimeters thick, with accuracy and within the tolerance required, was a really difficult task.

Q: How are the funds being collected for the construction of this House of Worship?

A: It is important to tell you that only Bahá'ís can contribute toward the construction costs of the Temple. This is regarded as a great privilege and bounty for the Bahá'ís. The National Spiritual Assembly of the Bahá'ís of India has printed a large number of coupons valued from Rs.1/- to Rs.100/- to raise funds from the believers scattered in 40,000 localities. In this way we receive contributions from all over India. We also receive contributions in kind; that is, rice, wheat, etc., from villages. Some Bahá'í wom-

en send us their handmade crafts. Bahá'ís all over the world also contribute for the construction of the Temple. The amount is not important. What is important is that a maximum number of Bahá'ís participate. An Indian scholar who visited our site told me, "The Taj Mahal was built with the power of a king, but you are building this majestic edifice with the power of love."

Q: What plans are being made for the public dedication of the Temple?

A: The National Spiritual Assembly of the Bahá'ís of India, in consultation with the Universal House of Justice, has been working on the dedication activities for some time. A dedication committee has been appointed by the National Assembly. All the State Teaching Committees have been consulted about the date of inauguration. A multitude of Bahá'ís from all over India are expected to come to Delhi for the ceremony, and we expect a large number of Bahá'ís from all over the world as well. We expect people even from the tribal areas. A great conference is also being planned. In my opinion, this will be an historic event, as it will not only demonstrate that Bahá'ís promote the unity of mankind but will show this unity in action. We shall see Bahá'ís of all races, colors and religious backgrounds. People from all

religions will be welcomed at the celebration. The most significant aim of the Temple is to foster the unity of all religions and of mankind. This is the fundamental principle of the Bahá'í Faith.

Q: You said that this House of Worship is open to all the peoples irrespective of race, caste, religion, class, etc. Does this mean that people can practice their traditional forms of worship, for instance, Hindus chant their mantras, Muslims say namaz, Christians hold mass, Buddhists use their prayer wheels, and so forth?

A: It is important to note that the Bahá'ís do not have any clergy or rituals and the Temple is reserved purely as a place of worship. In accordance with these principles, there are no sermons or rituals, speeches, talks, etc. in Bahá'í Temples. It is a place for prayer and meditation—that means communion between man and his Creator, God. Everyone can enter and say his prayers but silently. There will be organized regular public services during which selections from the Holy Books of all religions will be recited or chanted. A chorus of singers will chant hymns to inspire the soul.

Q: Some people may ask whether it was indeed wise to build such a Temple in India. They suggest that we should have spent the money on other chari-

table things. What is your comment?

A: This Temple is being built with the money of Bahá'ís which they give absolutely voluntarily without anyone asking from them. The money they give for the Glory of God is a demonstration of their love for Him. They believe such a monument will attract divine bounties and that the spiritual atmosphere it creates will inspire many lives. If you dedicate a corner of your house, probably a small room, only for prayers, you'll have an entirely different feeling about that room. Everyone in the house entering that spot feels the spiritual nature of that particular place. Now imagine the spiritual significance of this edifice which has been constructed with universal participation of thousands of people from different races and religious backgrounds, all united in their purpose to achieve this lofty goal. It is a concrete embodiment of the unity of mankind in action. The Taj Mahal was built on a foundation of love between two persons. One can say there was no need for that building, for even without that monument the love between the King and Queen would have been eternal. Nonetheless, that majestic tomb symbolized the love between Shah Jehan and Mumtaz. That is why, even after centuries, one feels attracted to that building to witness that love. Now imagine the impact of love created by the Bahá'í House of Worship. Here, a spiritual love between man and God manifests the eternal Source of all love. If you ask you today in India what is the treasure you have from your ancient culture, the Temples of India are the richest treasures. These Temples were built by the people out of their love for God. Thousands of ancient buildings, palaces, cities have been destroyed. But most of the Temples have survived the ravages of time and fortune because they were built in the name of God. In my opinion, our House of Worship is an expression of the love of man for his Creator.

Here, we Bahá'ís are building a House of hope. It is a sort of investment or saving. It is not the rich people who are giving the money which one could distribute among the poor. On the contrary, it is largely the poor who have supported this project for the sake of their appreciation of love, unity and beauty. However poor the peo-



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ple are, still they love to buy a pot of flowers and place it in a corner of their room. Without love and beauty, man is nothing. This Temple symbolizes our love for aesthetics, a humble offering to our Creator in the most beautiful manner we possibly can. You may call it a flower in the corner of our hearts.

Q: Do you think this majestic and beautiful structure will increase the number of tourists visiting Delhi, both from abroad and within the country?

A: I would say "yes." Bahá'í Temples all over the world are a source of great attraction for tourists. They are known for their splendor and beauty. I have no doubt that this building will be an important center of attraction for domestic and foreign tourists. With every passing day we have noticed that more and more people come here to see the Temple. Many tourists come and say they have been fascinated to see it from the air while landing in Delhi and

they want to see what it is.

Q: Who are the people who have made significant contributions toward raising this edifice? A task of this dimension must demand the highest form of team spirit, cooperation, love and fellowship. What are your comments?

A: First, our contractor's present team. They have been with me for the past two years and we have struggled together in solving the problems of translating what we have designed on paper. We have the most outstanding relations with their engineers at site. We work in a team spirit, like a family. Our main contractor is M/s. Larsen & Toubro, ECC Construction Group. In particular, their construction manager, Mr. J. Ganguly, and construction engineer, Mr. Raju, have contributed a lot, not only as contractor but personally as individuals who love this

building, and they are largely responsible for the wonderful spirit at the site. They also have about 40 engineers and supervisors who work with dedication and maximum devotion. Together with our other contractors and our departmental laborers, about 800 workers are on the job.

Second, my assistants, in particular Mr. M. Ashraf, Mr. Kamal Fozdar, and Mr. Sheriar Nooreyzedan who have worked with me for many years as my family members. Also Mr. E. Hus-saini, Mr. M. Fani, Mr. Saberi and others who are a great help to me; I am grateful to all of them. The other team that has an important share in the project is M/s. Flint & Neill Partnership, working with us as our structural consultants. If I were to mention and acknowledge my gratitude to all the people who have helped me, you would be here for hours.

‘ . . . the hearts . . . must be welded . . . ’

By DR. S. PATTABI RAMAN
Coordinator of Activities
Bahá'í House of Worship, New Delhi, India

One of the most striking endowments that distinguishes the human race from the rest of creation is the human spirit, and consciousness is one of its unique faculties. This faculty enables us not only to contemplate both the immanent and transcendent aspects of our own lives and the creation around us but also inclines us to reach toward the ultimate reality to quench that cosmic thirst in every human being.

Prayer and meditation are the essential tools that enable the human mind to be in close touch with that unknowable essence, God. These two tools have been the ubiquitous feature of almost all modes of spiritual discipline whether or not it is a part of an institutionalized religion. The ultimate test of any civilization has been and will always lie in its ability to achieve spiritual success together with social progress. Experience has shown that before any social or humanitarian program can truly succeed, the human hearts of those involved in it have to be welded with a unity of purpose and affection from which will emerge the selfless motivation to accomplish the goals. Places of worship, temples, churches, synagogues and mosques have provided the necessary matrix to serve as collective centers for worship and meditation in any given culture throughout the history of our civilization. Such acts of collective worship serve to channel that spiritual energy that emanates from these centers. The worshipers derive the necessary inspiration to enable them to discharge their responsibilities befittingly in the course of their day-to-day exertions in the field of service.

It is a firm Bahá'í belief that there should be a direct and constant interaction between the spiritual forces emanating from these centers of worship and the energies consciously displayed by those who are administering and serving the social and humanitarian institutions. It is in this context that the Bahá'í perspective on the relationship between worship and service becomes at once relevant and indispensable for rejuvenating the present social order and for carrying forward an ever-advancing civilization.

The Mashriqu'l-Adhkár (Bahá'í House of Worship) represents one of the most outstanding institutions conceived by Bahá'u'lláh. Its primary function is to provide most adequately the essentials of Bahá'í worship and service, both of which are so vital to the regeneration of humanity. 'Abdu'l-Bahá says:

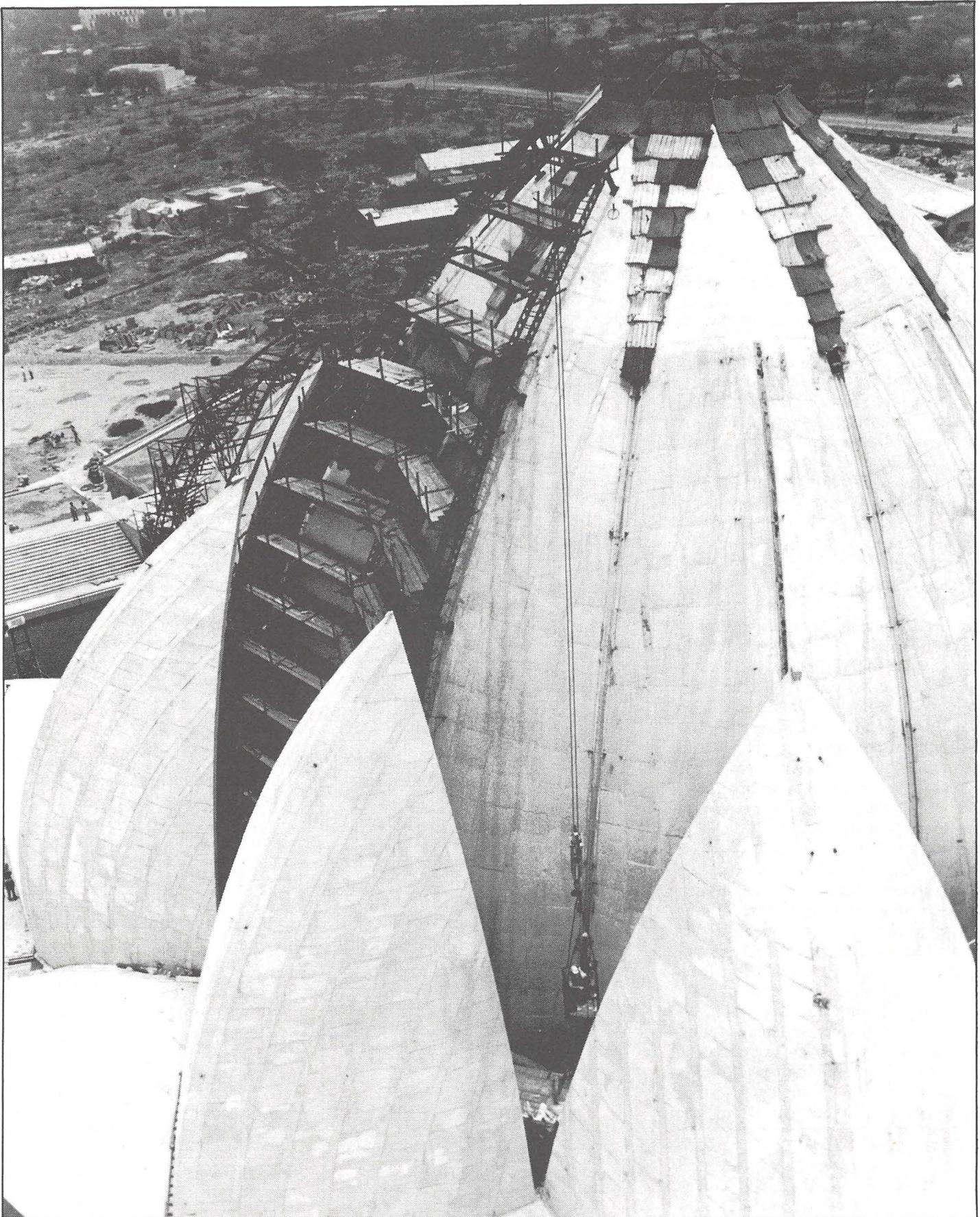
“Although to outward seeming the Temple is a material structure yet it has a spiritual effect. It forgeth the bonds of unity from heart to heart: It has a collective centre for men's souls. . . . It is not only a place of worship but in every re-

spect it is complete and whole. . . . It has a powerful influence in every phase of life.”

Since prayer, which is essentially a communion between man and God, transcends all ritualistic forms and formulae, worship at the central Edifice of the Mashriqu'l-Adhkár will be in a serenely spiritual atmosphere with no display of particular symbols of one's faith and devoid of the conglomeration of religious services, sectarian observances and rites conducted along the traditional lines in temples and mosques, and other places of collective worship. For those who congregate therein, the Edifice will symbolize the fundamental verity underlying the Bahá'í Faith, that religious truth is not absolute but relative, that Divine Revelation is not final but progressive. As Shoghi Effendi points out, *“Theirs will be the conviction that an all-loving and ever-watchful Father who, in the past, and at various stages in the evolution of mankind, has sent forth His Prophets as the Bearers of His Message and the Manifestations of His Light to mankind, cannot at this critical period of their civilization withhold from His children the guidance which they sorely need amid the darkness which has beset them, and which neither the light of science nor that of human intellect and wisdom can succeed in dissipating.”*

This institution is destined to play a vital role in the organic life of every community in which it is built and will be connected with several subsidiary institutions or dependencies of the Mashriqu'l-Adhkár consisting of a hospital, a drug dispensary, a school for orphans, a travelers' hospice and a university for advanced studies.

The nexus between worship and service in the Bahá'í context is succinctly epitomized in the following words of Shoghi Effendi, the Guardian of our Faith: *“. . . however inspiring the conception of Bahá'í worship, as witnessed in the central Edifice of this exalted Temple, it cannot be regarded as the sole, nor even the essential, factor in the part which the Mashriqu'l-Adhkár, as designed by Bahá'u'lláh, is destined to play in the organic life of the Bahá'í community. Divorced from the social, humanitarian, educational and scientific pursuits centering around the dependencies of the Mashriqu'l-Adhkár, Bahá'í worship, however exalted its conception, however passionate in fervor, can never hope to achieve beyond the meagre and often transitory results produced by the contemplations of the ascetic or the communion of the passive worshiper. It cannot afford lasting satisfaction and benefit to the worshiper himself, much less to humanity in general, unless and until translated and transfused into that dynamic and disinterested service to the cause of humanity which it is the supreme privilege of the Dependencies of the Mashriqu'l-Adhkár to facilitate and promote.”*



Photograph by Mark Sadan

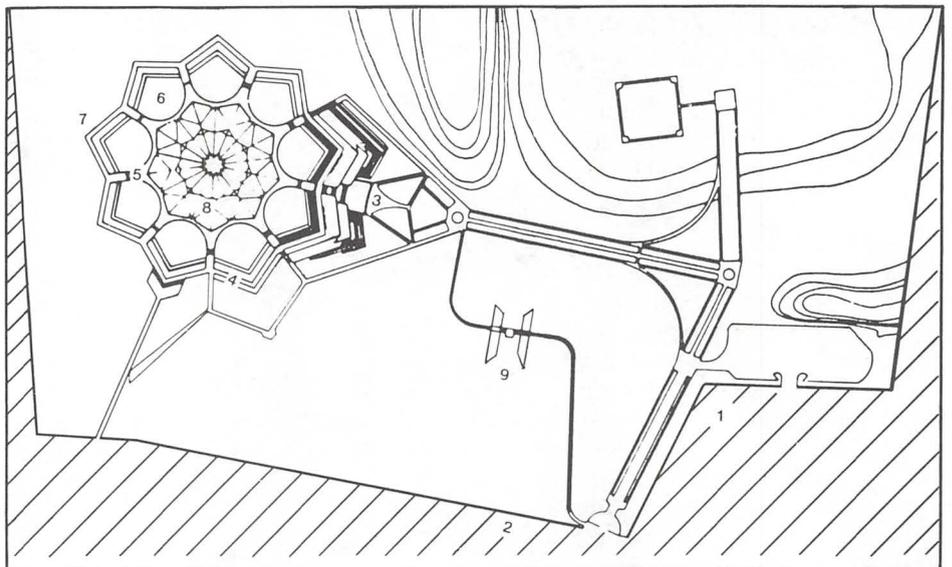
‘ . . .continuing a rich tradition . . . ’

The Temples of the Bahá'í Faith are well-known for their architectural splendor, and the Mother Temple being constructed in Delhi is only a continuation of this rich tradition. Before undertaking the design of the Temple, the architect, Mr. Fariburz Sahba, traveled extensively in India to study the architecture of this land and was impressed by the design of the beautiful temples, as also the art and religious symbols wherein the lotus invariably found an important place. He was influenced by this experience, and in an attempt to bring out the concept of purity, simplicity and freshness of the Bahá'í Faith, he conceived the Mother Temple in Delhi in the form of a lotus. The Temple would, when completed, give an impression of a half-opened lotus flower, afloat, surrounded by its leaves. The Bahá'í Faith is said to embody in itself the nine major faiths of the world, and in order to symbolize this, each component of the Temple is repeated nine times.

The Temple complex, as seen from the layout (Fig. 1), consists of the main house of worship, the ancillary block which houses the reception center, the library and the administration building as well as the toilet block. The Temple proper comprises a basement to accommodate the electrical and plumbing services and a lotus-shaped superstructure to house the assembly area.

All around the lotus are walkways with beautiful, curved balustrades, bridges and stairs which surround the nine pools representing the floating leaves of the lotus. Apart from serving an obvious aesthetic function, the

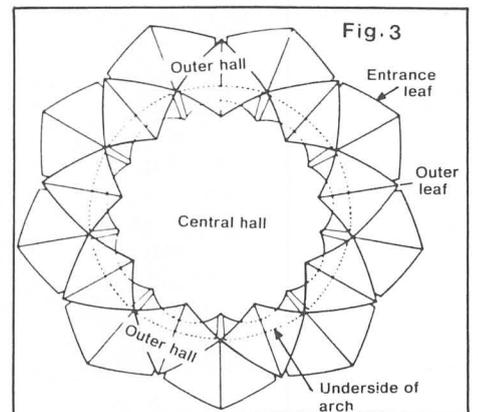
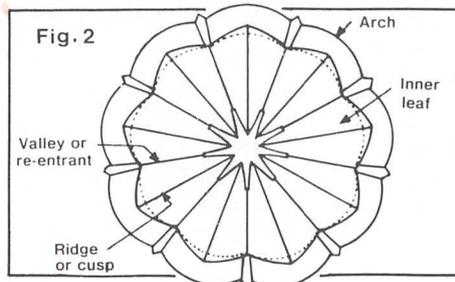
This article, "The Flowering of a Faith," by S. Naharoy, Jt. General Manager (EDP and P&M), Ms. Larsen & Toubro ECC Construction Group, is reprinted from Bahá'í News India, Vol. 49 (December 1985).



Layout of the Temple: 1. existing Kal-kaji Temple; 2. road to Nehru Palace; 3. entrance; 4. steps; 5. bridges; 6. pools; 7. podium; 8. Temple; 9. toilet block.

pools also help ventilate the building. The lotus, as seen from the outside, has three sets of leaves or petals, all of which are made of thin concrete shells. The outermost set of nine petals, called the "entrance leaves," opens outward and forms the nine entrances around the outer annular hall. The next set of nine petals, called the "outer leaves," points inward. Together, the entrance and outer leaves cover the outer hall. A third set of nine petals, called the "inner leaves," appears to be partly closed. Only the tips open out, somewhat like a partly opened bud. This portion,

which rises above the rest, forms the main structure housing the central hall. Near the top, where the leaves separate out, nine radial beams provide the necessary lateral support. Since the lotus is open at the top, a glass and steel roof at the level of the radial beams provides protection from rain and facilitates the entry of natural light into the auditorium.



Below the entrance leaves and outer leaves rise nine massive arches in a ring, through each one of which is a row of steps leading into the main hall.

The inner leaves enclose the interior dome, a canopy made of criss-crossing ribs and shells of intricate pattern. When seen from inside, each layer of shells and ribs, as they rise, disappears behind the next lower layer. Some of the ribs converge radially and meet at a central hub. The radial beams emanating from the inner leaves described earlier meet at the center of the building and rest on this hub. A neoprene pad is provided between the radial beams and the top of the interior dome to allow lateral movement caused by the effect of temperature changes and wind.

Geometry

The beautiful concept of the lotus (as conceived by the architect) had to be converted into definable geometrical shapes like spheres, cylinders, torroids and cones. From such shapes, the surfaces and edges of the petals were derived in terms of equations which were then used as a basis for structural analysis and engineering drawings. The resultant geometry was so complex that it took the designers more than two and one-half years to complete the detailed drawings of the Temple. An attempt is made here to describe, in simple terms, this complex geometry.

Entrance leaves and outer leaves

For both the entrance and outer leaves, the shell surfaces on either side of the ridge are formed out of parts of a number of spheres of different radii with their centers located at different points inside the building. For the entrance leaves, there is one set of spheres, some of which define the inner surfaces and others which define the outer surfaces of the shells. The diameters of the spheres are so fixed that the varying shell thickness required from structural consideration, at each point, is satisfied. Similarly, for the outer leaves, another set of spheres defines the inner and outer surfaces of the shells. However, for the outer leaves, the shell is uniformly 135 mm thick toward the bottom and increases to 255 mm up to the tip beyond the glazing line.

The entrance leaf is 18.2 m wide at the entrance and it rises 7.8 m above

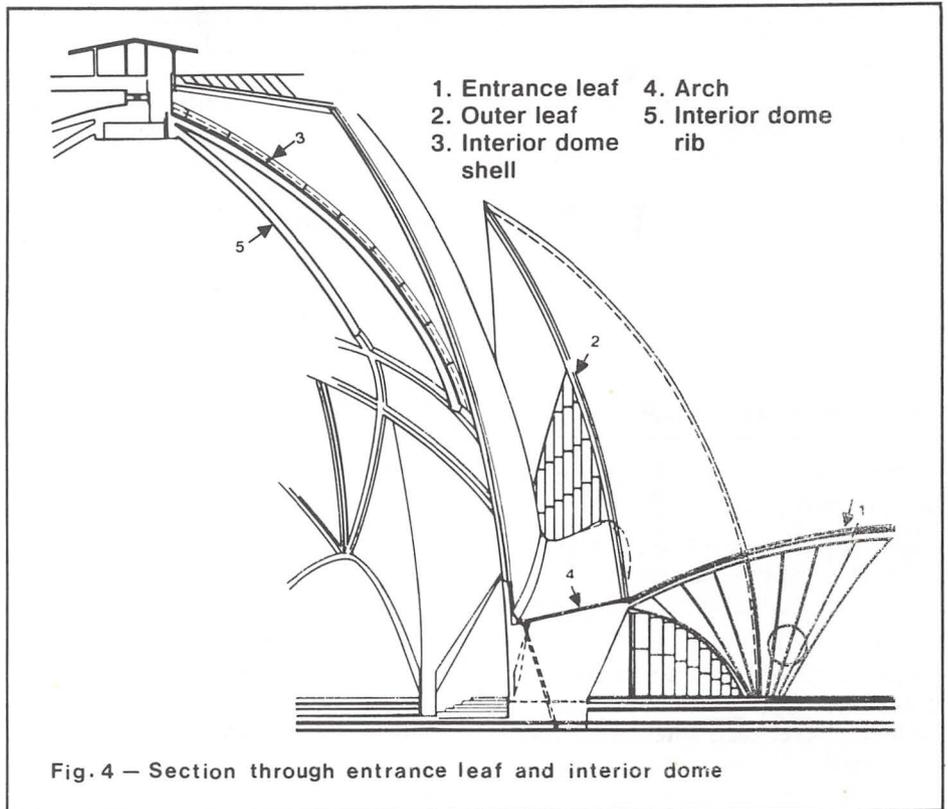


Fig. 4 - Section through entrance leaf and interior dome

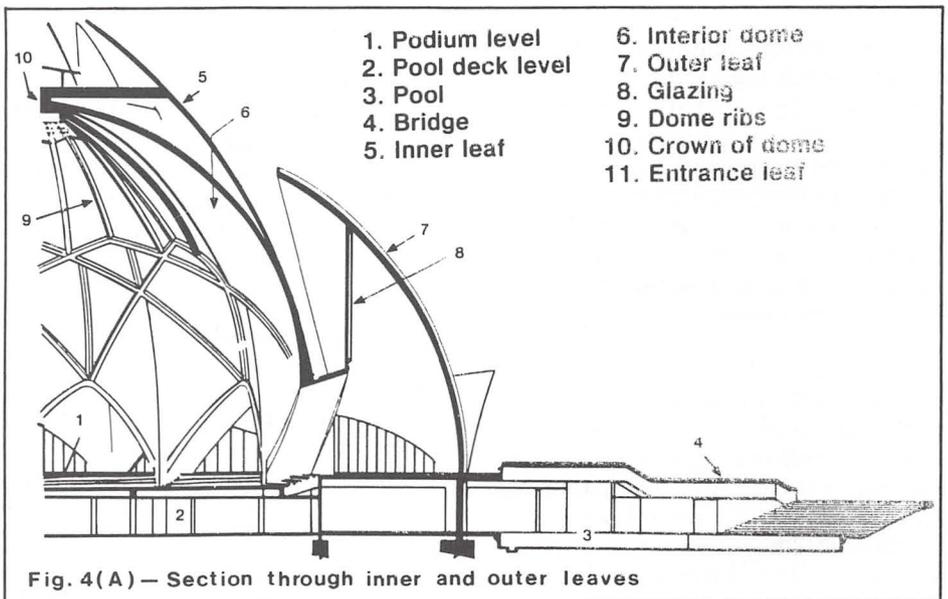


Fig. 4(A) - Section through inner and outer leaves

the podium level. The outer leaf is 15.4 m wide and rises up to 22.5 m above the podium.

The inner leaf

Each corrugation of the inner leaf comprising a cusp (ridge) and a re-entrant (valley) is made up of two torroidal surfaces. A torroid is generated when a circle of a certain radius, r , is rotated around the center of a circle of much larger radius, R , as shown in Fig. 6. A cycle tube is a typical torroid. The

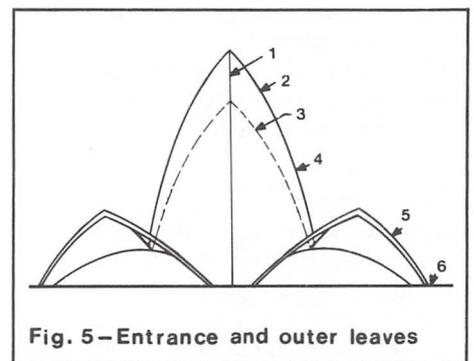
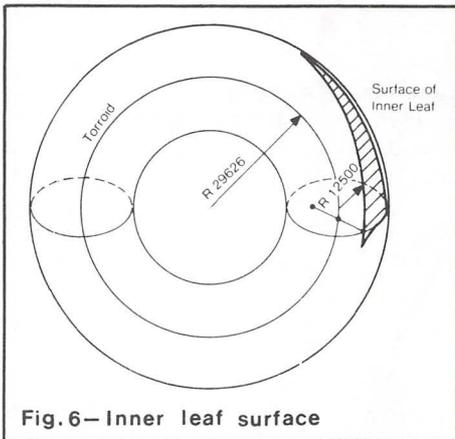


Fig. 5 - Entrance and outer leaves



shaded part of the torroid is a part of the inner leaf shell.

Torroids as shown here, at the nine different locations, define the geometry of the nine shells of the inner leaves.

The inner leaves rise to an elevation of 34.3 m above the inner podium. At the lowest level each shell has a maximum width of 14 m. It is uniformly 200 mm thick.

The arch

All around the central hall are nine splendid arches placed at angular intervals of 40°. The shape of these arches is formed out of a number of plane, conical and cylindrical surfaces. The intersection of these surfaces provides interesting contours and greatly enhances the beauty of the arches. The nine arches bear almost the entire load of the superstructure.

The interior dome

From the crown of each arch spring three ribs. While the central one (the dome rib) rises radially toward the central hub, the other two (the base ribs) move away from the central rib and intersect with similar base ribs of adjacent arches, thus forming an intricate pattern. From each of these intersections rise other radial ribs, all of which meet at the center of the dome.

Up to a certain height, the space between the ribs is covered by two layers of 60 mm thick shells.

Setting out

As mentioned earlier, the size, shape, thickness and other details of the structure were defined by equations of various geometrical surfaces and their intersections. The working drawings thus contained only levels, radii

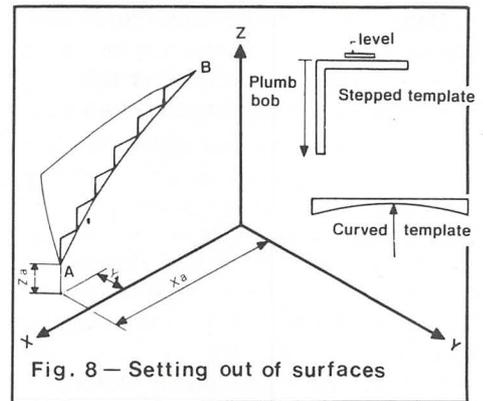
and a number of complex equations. These parameters had therefore to be converted into a set of dimensions in terms of length, breadth, height and thickness, easily understood by a site engineer or a carpentry foreman. To achieve this, a system of coordinates along x, y and z axes, for every 40° segment of the Temple, was worked out with the help of a computer at IIT, Madras. The problem was then further simplified by working out lines, levels and distances which a carpenter or a reinforcement fitter could easily comprehend and then arrive at the surfaces and boundaries.

For example, to arrive at curve AB (refer to Fig. 8), point A with coordinates X_A, Y_A, Z_A is defined with respect to O. AB is then established by a one sec. theodolite and the curve AB determined by a stepped template as shown in Fig. 8. Accurately made curved templates of required radius are then used to check the surface of bottom formwork. Computation of distances, levels and offsets and solving geometrical problems is a routine job of the site engineer.

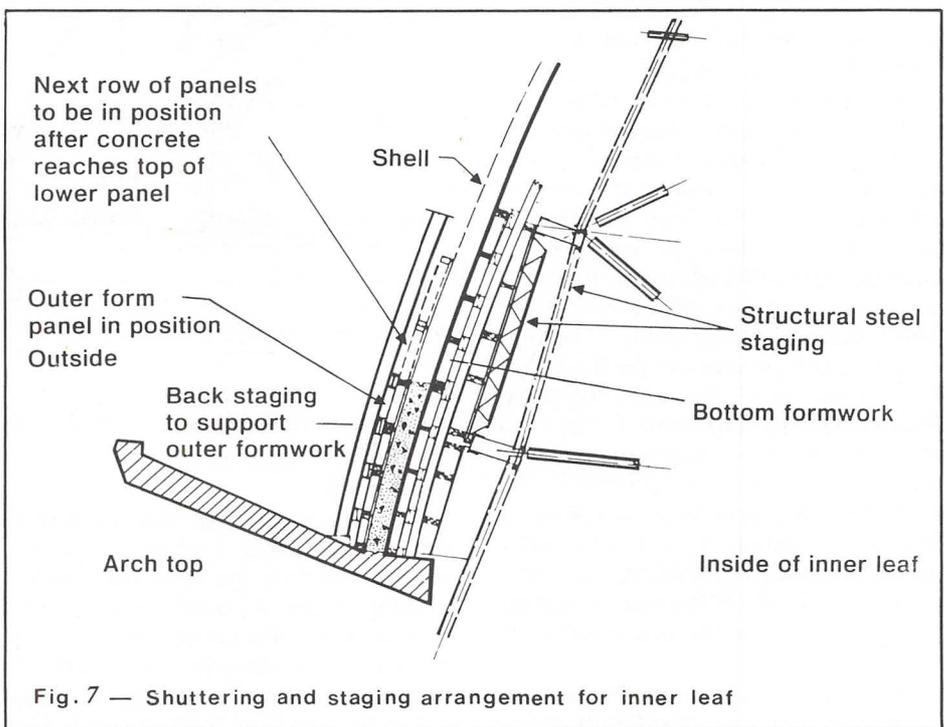
Formwork

The design, erection and dismantling of the formwork for the petals posed the most challenging task.

Not only was the formwork difficult to align, so as to produce accurately the complex, doubly curved surfaces



and their intersections, but also the closeness of petals, one fold behind the next, caused serious problems of work space for fixing formwork, reinforcement and concreting. For every petal, the inner formwork had to be fully fixed, from bottom to top, and aligned accurately. Once this was done and the reinforcement placed in position, a major problem was the fixing and aligning of the curved outer formwork, so as to maintain the required thickness of the shell, between the inner and outer formwork during concreting. Also, to avoid marks of cold joints on the exposed concrete surface, the casting of petals was carried out in continuous pour, sometimes for a height of 22 m and lasting more than 48 hours. To facilitate such placement of concrete and simultaneous compaction, the outer formwork had to be placed one row of



panels at a time, and as the level of concrete rose, the next row of panels was fixed. These panels were therefore to be fixed in position and aligned accurately in the shortest possible time.

The support system for the outer formwork had not only to cater to such a provision but also had to be sufficiently rigid to resist the pressure of concrete, and to carry the platforms for the workmen and other constructional loads.

The inner formwork was supported on a specially designed steel staging, a space frame with radial circumferential members.

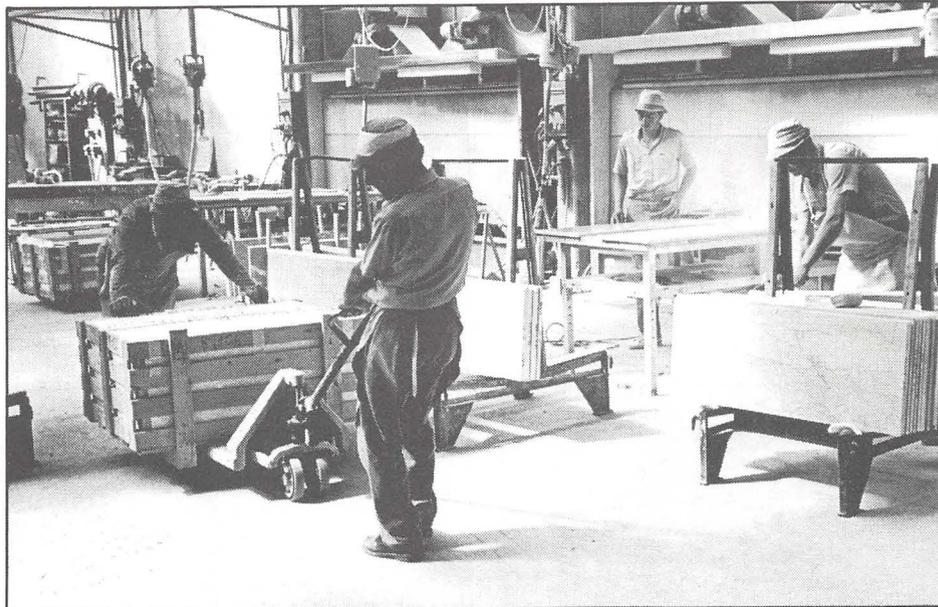
From the requirements of the formwork, as described above, it can be seen that comparatively large heights of concrete would remain unset when a tall shell was cast in one continuous pour. This aspect posed unique design problems, since the load on the formwork accumulated to a considerable extent as the level of concrete rose.

Besides being capable of safely supporting these loads, the system had to satisfy the rigid specifications of deflection of the formwork. More than 150 drawings for the staging and formwork and numerous method statements were prepared describing the sequence of construction in detail so as to ensure that the loads on the formwork did not exceed those assumed in the design. To carry out the computations for various combinations of loading cases, the computer at IIT, Madras, was used.

A special aspect that demanded considerable attention was the architectural pattern imparted by the formwork joints on the exposed concrete surface. These patterns were to follow the longitudes and latitudes of the spheres and torroids, and no other joints or marks were to be seen on the concrete surface. To fulfill this requirement, full-scale mock-ups had to be erected to study the patterns of joints and problems involved while erecting the formwork.

Materials

The petals of the lotus are in white concrete using specially graded dolomite aggregates from the Alwar mines near Delhi and white silica sand from Jaipur. The white cement used is imported from Korea. The reinforcement used in white concrete, as well as the binding wire for it, is entirely galva-



Photograph by Mark Sadan

nized so as to prevent the long-term effect of rusting of reinforcement on the white color of concrete. No cover blocks on the inner surface were permitted. Specially designed steel spacers were used instead, to keep the reinforcement in place. To ensure durability and a largely maintenance-free structure, all the materials were carefully chosen. No plastering, painting or any other type of surface finish was envisaged. A lightly brush-hammered, exposed concrete surface, with the pattern of formwork joints would form the final finished surface of the interior of the Temple.

On the exterior, the petals would be clad with white marble panels fixed to the concrete surface with specially designed stainless steel brackets. The marble has been quarried from the Mount Pentelikon mines of Greece and thereafter sent to Italy, where each panel was cut to the required size and shape before transporting it to the site in Delhi. The flooring inside the Temple will be in white marble and the finish of the walkways and stairs of the outer podium in red sandstone.

Quality assurance

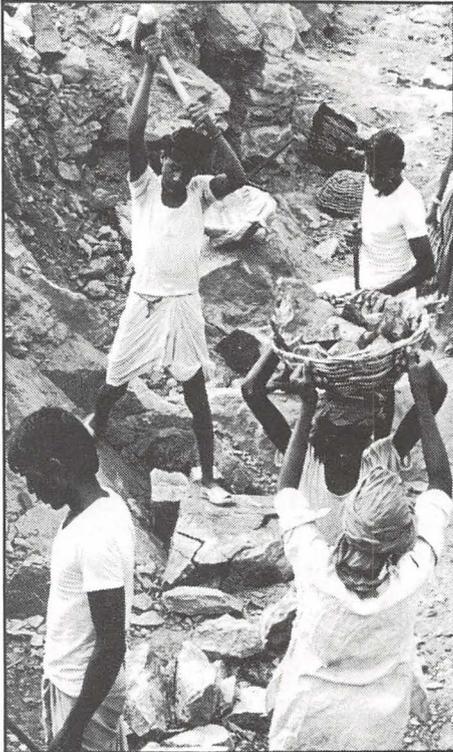
Quality assurance is naturally a very important aspect of this project. Tests are carried out on all materials to ensure their adherence to standards and specifications. Checking for accuracy and quality of workmanship is done at each stage of work as specified in the method statements. A full-fledged con-

crete laboratory carries out the mix designs for the various grades of concrete as well as exercises strict control over the quality of concrete. The temperature of concrete is kept below 30°C even during the summer months when the temperature reaches as high as 45°C (113°F). This is achieved by adding a controlled quantity of ice and by pre-cooling the aggregates in air-cooled storage bins.

The Bahá'í Temple in New Delhi is not only the most complex project ever undertaken by ECC, but is also probably one of the most outstanding contemporary structures in the world. The complexity of the structure and the very high standards of workmanship expected to be achieved demand a dynamic construction management with a high degree of innovativeness, team spirit and quality consciousness in the staff and workmen. Anticipating problems in advance and solving them through trials and mock-ups is an essential part of site planning. Further, a high emphasis is laid on the completion of the project within the stipulated time and cost. The resources are planned and the physical progress monitored through constant review of PERT networks.

The construction of the project is expected to be completed and the Temple dedicated by December 1986. It would thereafter serve not only as a Temple of worship but also as a model of excellence in design and construction.

Step by step: A wondrous edifice rises



Photographs by Mark Sadan





Photographs by Mark Sadan



To register for India Temple dedication:

PRE-REGISTRATION FORM

Please fill out completely and mail with **two** passport size photos of each participant to:

DEDICATION COMMITTEE

P.O. BOX 4365.

NEW DELHI, INDIA

to reach it prior to **August 31, 1986**

Conditions in Delhi require a ceiling on the number of participants, and registration will be on a first-come first-served basis. Applications without photos will not be processed.

Name Mr/Mrs/Ms _____
(last name) (first name)

Address _____ (Telephone: _____)

(City) (State Province) (Country)

(Passport No.) (Dt. & Place of Issue) (Valid upto) (Nationality)

Languages Spoken _____ Understood _____

Family Members Accompanying you: Last Name First Name

Mr/Mrs/Ms _____

(Passport No.) (Dt. & Place of Issue) (Valid upto) (Nationality)

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(Passport No.) (Dt. & Place of Issue) (Valid upto) (Nationality)

Mr/Mrs/Ms _____

(Passport No.) (Dt. & Place of Issue) (Valid upto) (Nationality)

If your passport details are not available at the time of sending this form please make sure to send it to us latest by October 1, 1986.

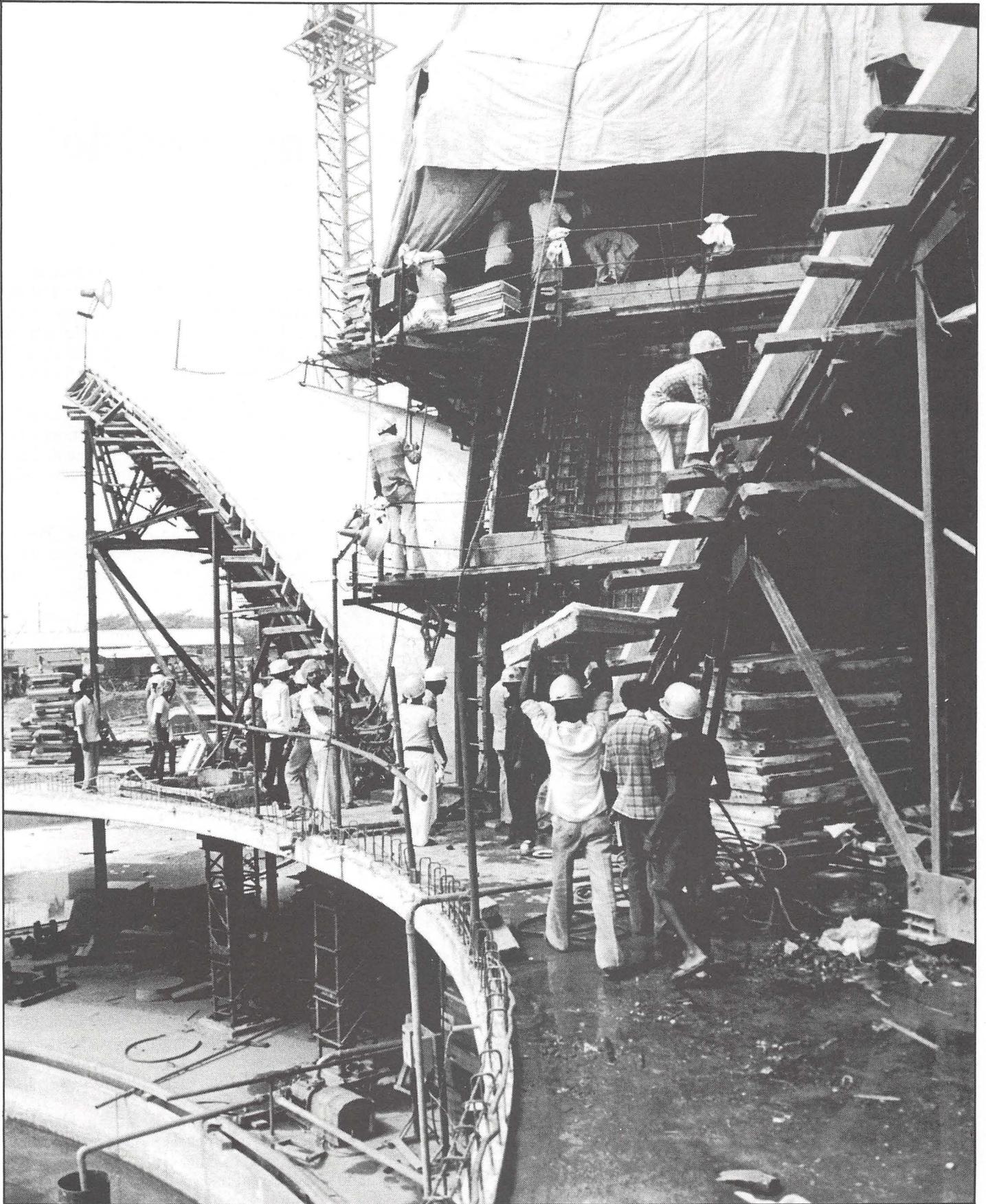
In order that we proudly demonstrate to the world at large the ethnic, racial, and cultural diversity of the followers of Bahá'u'lláh who will assemble here during this historic dedication, we request you to furnish the following information.

I/We am/are native(s) of _____ I/We belong to _____
(Country of birth or origin) (Specific Tribe) (Ethnic or Racial Classification)

Any other brief information about you or your family that may be of relevance to the purpose mentioned above. _____

Registration fee for each participant 12 yrs old and over is US \$ 40

Please complete this form and mail it with your Cheque/Bank Draft /M.O. payable to:
THE NATIONAL SPIRITUAL ASSEMBLY OF THE BAHÁ'ÍS OF INDIA (DEDICATION).



Photograph by Mark Sadan

Bahá'ís in Alaska becoming 'visible'

Bahá'ís in Barrow, an Alaskan village north of the Arctic Circle, have become quite visible in their community, holding important service occupations and volunteering in still other community service organizations.

Included among the Bahá'ís:

The assistant fire chief, who trains fire squads in North Slope villages; the coordinator of the borough drug abuse program; the head of the borough

health education program; the local technician responsible for all long distance communication between Barrow and the outside world; a highly skilled welder; a gunshop owner who repairs whaling guns free of charge; and a counselor at a treatment center for those who are troubled by drug abuse.

In addition, Bahá'í volunteers work in the city council; in the Barrow Com-

mission on Child Abuse and Juvenile Delinquency; for the Civil Air Patrol, which was organized and is commanded by a Bahá'í; and on radio station KBRW, which broadcasts Bahá'í programs heard across the North Slope for 45 minutes each week.

Many Bahá'ís in the community have learned some of the Inupiaq Indian language, and one of them, born in the village, helps the others with their vocabulary.

* * *

Copies of "The Promise of World Peace" in English and Chinese were presented to the president of the Alaska Chinese Association before an audience of 350 people attending the Association's celebration in February of the Chinese New Year.

In addition to the peace statement, the president was given a peace packet of special materials and a bouquet of flowers.

* * *

"Living the Dream," a memorial service for Dr. Martin Luther King Jr., was held January 1 at a civic arena in Anchorage, Alaska.

During the televised ceremony, Mrs. Bette Putnam, chairman of the Spiritual Assembly of Anchorage, presented a copy of "The Promise of World Peace" to the Rev. Ralph David Abernathy, a well-known civil rights spokesman in North America and friend of the late Dr. King.

Bahá'ís sang in the 600-member chorus and helped with orchestral arrangements, and many Anchorage Bahá'ís donated their time to committee work in tribute to Dr. King.

The Anchorage Assembly also presented the peace statement to each member of the city's Municipal Assembly at its session January 14, eliciting many positive comments from city legislators.

Japan



Pictured (left to right) are speakers at last year's UN Day observance in Machida, Japan: Kasuo Naito, UNESCO representative; Hajime Yukimune, director of the Peace Office of Japan; Auxiliary Board member Kimiko

Schwerin; and Tsutomu Mizota, UNICEF representative. About 45 Bahá'ís and their guests attended the event, after which the Bahá'ís of Machida hosted a dinner for the participants.

Uruguay

In January, Uruguay held a successful five-day Bahá'í Summer School with 93 people from nine localities, as

well as visitors from Argentina and Brazil, participating.

Bolivia

Dr. Julio Garrerr Aillon, the vice-president of Bolivia, received the peace statement February 20 from a five-member delegation representing the National Spiritual Assembly of Bolivia.

Dr. Garrerr expressed appreciation for the work the Faith is doing in Bolivia. He thanked the Bahá'ís for presenting him "The Promise of World Peace," and promised to read it carefully.

On February 26, the vice-president wrote an enthusiastic response to the statement, quoting liberally from it in a two-page letter on peace. He called the statement "an interesting document which undoubtedly constitutes a contribution to the mutually longed-for . . . peace for all the peoples of the world," adding, "I am in accord with the declaration that 'world peace is not only possible but inevitable' . . .

"It is important to emphasize those concepts related to the union of all the nations of the world, where an International Executive power, a World Parliament and a Supreme Tribunal will be established, that is to say, a world community. . . ."

Sri Lanka

Nearly 200 representatives of 35 Non-Governmental Organizations (NGOs) attended a seminar on the International Year of Youth sponsored last December 15 by the Bahá'ís of Sri Lanka.

The Chief Guest was the UN's resident representative, who praised the role of the Faith and the capacity of Bahá'í youth.

Cameroon

One hundred-fifteen participants including 22 men and a dozen children from 10 countries and 31 localities gathered for a recent Inter-Regional Women's Conference in Yaounde, Cameroon, whose theme was "Women and World Peace."

Women in government were invited to take part in panel discussions, which attracted wide media coverage.

Papua New Guinea



Dr. Elton Brash, vice-chancellor of the University of Papua New Guinea, receives a copy of 'The Promise of World Peace' from a Bahá'í representative,

Miss Seff Homerang-Leong. The following day, Mr. Brash presented the peace statement to the members of the University Council.

Belize

The Garden of the Covenant School, a pre-school opened less than a year ago by Bahá'ís in Dangringa Town, Belize, is already filled to capacity with young students in both morning and afternoon sessions. The school is operated by three full-time Bahá'í teachers and one part-time volunteer.

Among the students, five are Bahá'ís, the rest mostly Christians. The school implements Bahá'í principles, attracting many non-Bahá'í families. Lessons cover such topics as the family, nutrition, and spiritual attributes.

Nigeria

Three proclamation events were held last October and November in Nigeria, resulting in tremendous publicity for the Faith in Lagos, Ife and Bendel State.

At a United Nations book display at the National Arts Theatre in Lagos, Bahá'ís put up a table of books and posters that were seen by ambassadors attending the event.

At the University of Lagos, Kiser Barnes estimated that some 10,000

people saw the display of the Bahá'í Publishing Trust at the 10th annual Ife Book Fair.

And at the Bendel State Trade Fair, held October 12-19, the Bahá'ís set up a double booth, distributed about 1,500 pamphlets, and sold many books. Some of the people who paused at the booth mentioned that they had traveled to Haifa.

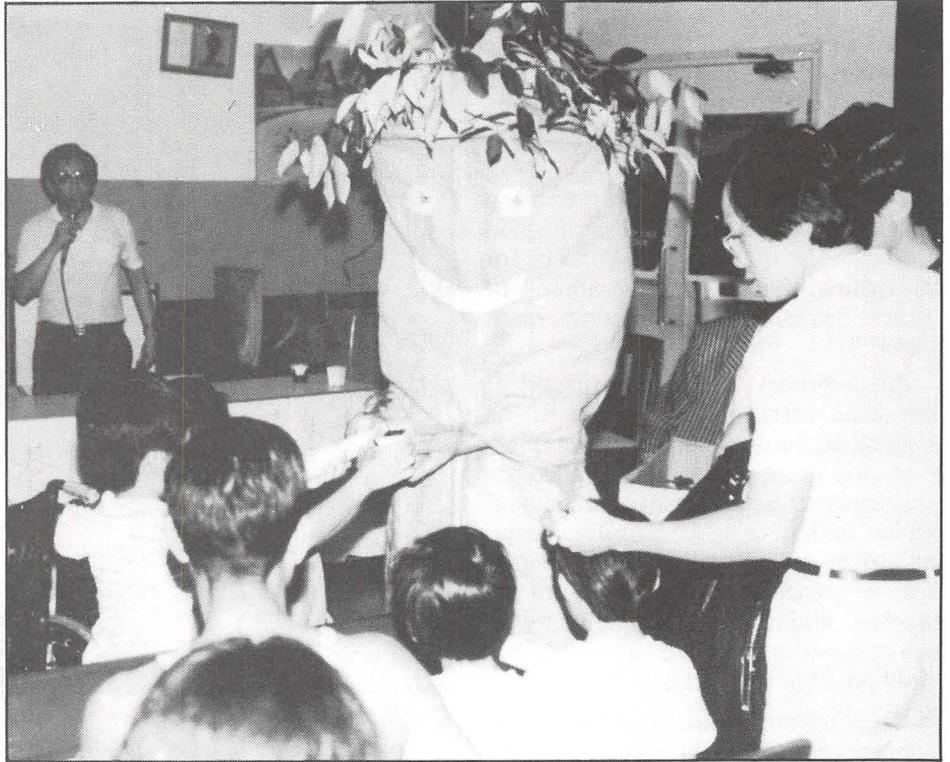
Pakistan

United Nations Day celebrations were held last October in 10 cities in Pakistan. Attendance ranged from 50-70 in the smaller cities to 250 at Bahá'í Hall in Karachi. In Islamabad, Hyderabad, Nawabshah and Rawalpindi, more than 100 dignitaries attended each of the events, responding to personal invitations.

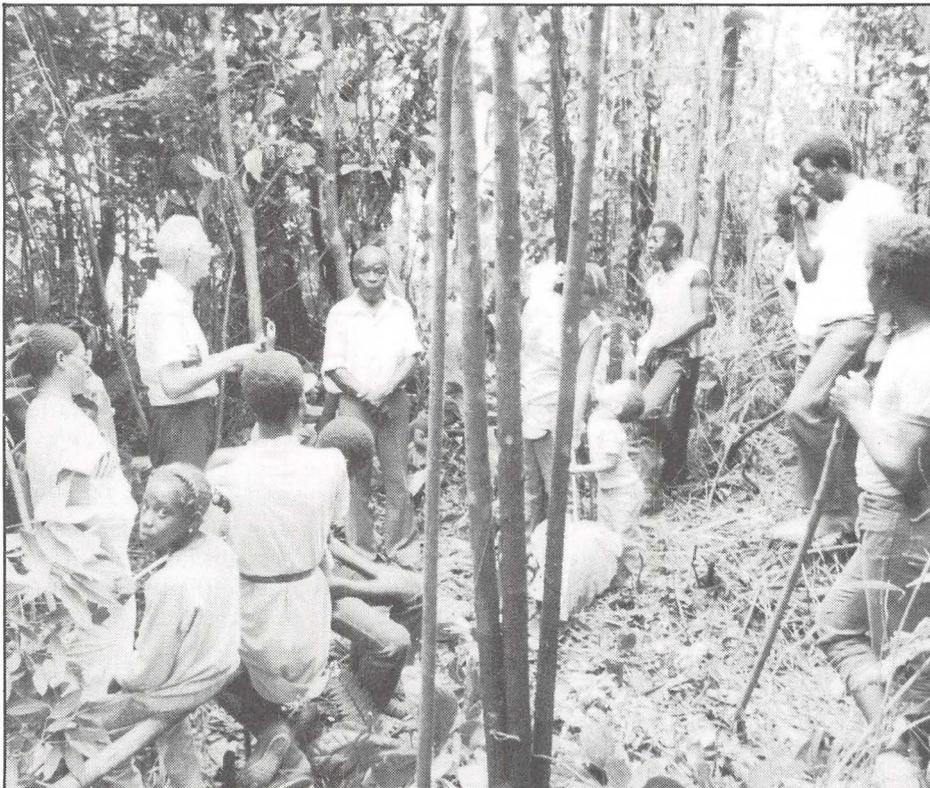
There was newspaper coverage of all the UN Day gatherings, including those held in Tando-Adam, Sahiwal, Lahore, Quetta and Peshawar.

Hong Kong

Bahá'í youth from Hong Kong, with one of their number disguised as 'Mr. Tree,' visit a local children's hospital to hand out seedlings to the children for planting. The young Bahá'ís also provided entertainment and refreshments.



Dominica



Bahá'ís gathered last November for a Unity Feast at the Temple site in Pont Cassé, Dominica, Windward Islands.

Guadeloupe

The Bahá'í community of Guadeloupe held a successful World Religion Day conference which was attended by about 150 people from several faiths.

The conference received considerable publicity on radio and television and in newspapers, and the National Assembly feels that the proclamation effort reached thousands of souls.

Ecuador

Teaching in Ecuador has resulted in the formation of four new local Spiritual Assemblies in the Shuara zone.

Further, it is the Shuara tribe members themselves who are carrying the Message of Bahá'u'lláh to their own people, with occasional support from visiting Bahá'ís.

Haiti

The National Teaching Committee of Haiti reported in mid-January that the results of a special teaching effort in that country included the enrollment of 54 new adult believers, five youth, and the formation of eight new local Spiritual Assemblies.

Canada

On March 26, members of the Bahá'í community of Canada presented the peace statement to Canadian Prime Minister Brian Mulroney.

In a press release given out on that date, the National Spiritual Assembly of Canada pointed out that in 1,500 localities in that country, Bahá'í communities were to present copies of the statement to provincial and municipal leaders and the general public.

The group that met with the prime minister included a psychiatrist, a businessman, a designer, a translator and a Micmac Indian elder.

* * *

On March 5, a member of Canada's House of Commons, Bill Blaikie of Winnipeg, made the first known reference in a national parliament to the Universal House of Justice's statement on world peace. Mr. Blaikie's comments, as recorded in the Hansard, Vol. 128, No. 236, were as follows:

"The Universal House of Justice, the supreme governing body of the Bahá'í Faith, addressed a statement to the people of the world on the theme of peace. I have a copy of the message which was presented to me by the Bahá'í community of East St. Paul, Manitoba. I recommend it to the Hon. Members of the House who are concerned about the peace issues, and I should like to quote from it briefly:

"Whether peace is to be reached only after unimaginable horrors precipitated by humanity's stubborn clinging to old patterns of behavior, or is to be embraced now by an act of consultative will, is the choice before all who inhabit the earth.' "

* * *

Youth at the Two Wings Bahá'í Conference, held February 19-20 in Canada, received a congratulatory telegram from Leticia R. Shahani, assistant secretary-general for social and economic development, United Nations, Vienna (CSDHA).

The message referred to action taken in the 40th session of the UN General Assembly to provide suitable follow-up to the Year of Youth, and to the guidelines for same, which make specific reference to the equality of men and women, inviting governments to implement recommendations relating to the

improvement of the situation of young women.

Mrs. Shahani's message ends with the hope that "open dialogue between young men and women provided by this conference will be both fruitful and successful, and that it will be a valuable contribution to the process of building a better future for all."

* * *

A local Spiritual Assembly in Can-

ada offered its services as mediator in a protracted dispute before the civil courts in which the judge felt incapable of rendering a decision.

After meeting with the two parties and considering the evidence, the Assembly proposed a compromise solution that was accepted by both parties with only a slight alteration.

The Bahamas



Pictured at the national Hazíratu'l-Quds in Nassau are students who took part last December 26-29 in the second

Bahá'í Winter School to be held in the Bahamas.

During the meeting in Nassau, Bahamas, this winter of the British Commonwealth Heads of Government, the Bahamian Bahá'í community, in cooperation with the conference coordinator, was able to deliver 1,100 at-

tractive literature packets for inclusion in the delegates' official pouches.

Each packet contained a letter of welcome, an embossed copy of a prayer for unity, and an information sheet on the Faith.

Chile

The National Spiritual Assembly of Chile recently received approval from the government's Ministry of Communications for the "Sociedad Radio-difusor Kalimát Ltd.," the incorporated body under which a new Bahá'í medium wave radio station is to begin broadcasting on 1.160 kHz in La-

branza, Cautin Province, in central Chile.

Vanuatu

Three pioneers from New Zealand have settled in Vanuatu, filling supplementary goals given by the Universal House of Justice at Ridván 1984 which called for two New Zealanders and two Australians to assist Vanuatu.

New...

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