in the neighbourhood, that of *The Ohio*, a fishing trawler, off 'Mother Ann' (a rock formation, resembling an old woman's face, just north of the Eastern Point Light), that of a pleasure craft off the Reef of Norman's Woe, and those of the tanker *Lucy* and the Navy minesweeper *Grouse* on the Salvages themselves. This 'realism' of fact, I believe, has effectively entered the tone and structure of the main symbols which Eliot has incorporated in his poem.[1]

To stop, then, at the mere recital of topography would be like having 'had the experience but missed the meaning'. Yet the meaning of the symbols which rise out of the topography enjoy a peculiar character precisely because, as Miss Gardner has already been quoted as saying: 'The landscape of *The Dry Salvages* is a landscape remembered.' I suggest that this symbolism, especially of the sea and the rocks and of the plight of the fishermen, has a peculiarly realistic quality. I use the word 'realistic' largely in an epistemological context, with, however, psychological and anthropological overtones. This quality refers to structure, theme and tone. Further, transforming and intensifying this realism is a structure best seen as deriving from a Christian imagination—an 'approach to the meaning restores the experience / In a different form'.

(*To be continued*)

The Work of Brothers to All Men in Bihar, India

by Jim Thomas

During 1965–66, India suffered the worst drought in living memory the monsoon had failed for the third time in four years; food grain production fell by 19 per cent, and there was widespread famine. Mothers spent hours searching the cracked earth for grains of rice or wheat with which they could feed their children; and would walk miles to the nearest good well for a couple of buckets of water. Life was reduced to the absolute basics. Women would cut a sari into two and wear half each. When the Brothers to All Men (B.A.M.) team first drove into the village of Kosila the people tried to take the canvas from the jeep for clothing.

Bihar is the most backward state of India, and the Gaya district is one of the poorest in the State. Thus B.A.M. established a team of

[1] I am grateful to Mr Lorne G. Taylor of the United States Department of Commerce for some of this information. Also see Morison, 233. Copeland and Rogers speak of the long history of wreckage that has attended the Gloucester fleet, p. 119.

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volunteers in the town of Gaya in December, 1966. The first two volunteers began a well-digging programme in the worst-affected part of the district. This work was done in conjunction with the international Relief organization AFPRO (Action for Food Production) and was completed by April, 1967.

B.A.M. started its own programme in May, 1967, employing villagers to dig emergency irrigation wells on a 'Food for Work' basis. For this project the National Council of Churches provided a jeep, and a supply of food grain with which to pay the villagers. During May, June and July, one hundred and fourteen wells were dug in the Fatehpur and Wazirganj blocks, twenty-five miles east of Gaya. A grant of £330 from Oxfam, and further funds from the Paris head office of Brothers to All Men, enabled the team to manufacture and place concrete rings in twenty-eight of the wells before the monsoon began, so that these wells became permanent structures.

Harijans, and the Bhoodan movement

From the beginning, B.A.M. in Bihar has been working to help the Harijans, the lowest caste Hindus, the 'untouchables'. These people had traditionally been landless, merely providing labour for the landed castes, and receiving four pounds of wheat a day as payment. They had been exploited, and have always been very backward. Most of the Harijans B.A.M. work with today are completely illiterate. In many villages they live in miserable mud huts separated from the main community.

The position of the Harijans is, however, improving. Slowly the rigidities of the caste system are being broken down; and in 1951 one man started the work that was to provide the greatest step forward for the landless peasants. Vinoba Bhave, a follower of Gandhi, began to walk extensively around India, trying to persuade rich landlords on his way to give up one-sixth of their land. Vinoba set up the Bhoodan, or land-gift, movement to take this land and distribute it amongst the Harijans.

B.A.M. works in close co-operation with the Bhoodan movement and with the Samanvya Ashram, established in Bodh Gaya by Vinoba. Bhoodan workers advise the volunteers in which villages it is most necessary to dig wells. They also act as intermediaries between B.A.M. and the Harijans, so helping to overcome the language difficulty.

Life in a Harijan village is difficult for a European to imagine. The dwellings are low mud huts, thatched or sometimes tiled. Each family has no more than the essentials of life: the hut, containing only simple wood and rope beds and the cooking utensils, an acre or two of land, perhaps a bullock or two, and perhaps a wooden plough, whose design has not changed for five thousand years. There is also a carefully stored reserve of food. This is the harvest of the monsoon

crops, and has to last the family through the eight barren months from November to June.

The people have nothing else, but they are always cheerful. They rise at dawn to take their cows and bullocks out from the village to the meagre grazing, work in the fields in the coolest part of the day, resting from 11 a.m. to 2 p.m. during the hottest months, and end their work as the sun goes down. After the evening meal, and through the dark hours before sleep, tiny oil lamps flicker in the village, and men get together in small groups to sing their prayers. The explanation for the singing is given by one of the villagers: 'Some men can read and write: they go to college. Some men are wealthy: they own businesses. These men can do nothing, they have nothing, so they sing.'

Permanent Irrigation Sources; beginnings of Agricultural Development

Following the success of the first two well-digging schemes, B.A.M. started a more ambitious programme of a hundred wells early in 1968. This programme was financed by a grant of £30,000 from the Swedish Lions Clubs. Well-digging has to stop in July, when the monsoon begins, making transport very difficult and digging dangerous. The work cannot begin again until January or February, when the water table has fallen sufficiently. However, during 1968 B.A.M. dug thirty-two wells on Bhoodan land in seventeen villages within twenty miles from Gaya.

As in the first two well-digging schemes, B.A.M. employed the villagers on a 'Food for Work' basis, paying them four pounds of wheat for a day's work. Often Harijans cannot afford to work for themselves as they are so poor they must go to work for the landlord to earn food for their immediate needs. But by paying the people the same wage they would receive from the landlords, B.A.M. ensures that they can build their own wells. Throughout the programme, B.A.M. is merely helping the poorest peasants to help themselves.

The open irrigation wells were constructed six, eight or twelve feet in diameter. Water is available almost everywhere beneath the ground in Bihar. In some places the water is only ten or twenty feet beneath the surface. In this case, wells six feet in diameter lined with concrete rings are sufficient. Where deeper wells, forty or sixty feet deep, have to be dug, then concrete rings are not strong enough as support. Here brick walls have to be built, and are gradually sunk on a steel-reinforced concrete ring base as the earth is removed evenly from underneath. Where the soil strata are not very porous, then eight- or twelve-foot brick-lined wells are dug, so that water percolates in from a larger area.

B.A.M. is not the first organization to have constructed irrigation wells in Bihar. Both the state government and the Bhoodan movement have dug wells in many of the poorest villages. The Harijans have also dug small wells for themselves where the water is not too far beneath the surface, but have never been able to afford concrete

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rings or brick walls. Consequently the unsupported wells have always collapsed under the monsoon rains, and required rebuilding every year. The task of B.A.M., therefore, is to make available funds like the £30,000 from Sweden to finance permanent wells, and to encourage and instruct the villagers to work together to dig wells from which they will all benefit.

By the end of 1968 the team had expanded from two to six volunteers, three French, two English and one Anglo-Indian. The team thus reflected B.A.M.'s ideal of having young men from different countries working together on problems of under-development.

In July, 1968, agricultural development work was begun in some of the villages in which wells had been dug, to help the people make the best possible use of their land and irrigation sources. The soil is for the most part very fertile, while the high temperatures and abundant sunshine for most of the year are also conducive to high crop yields. Availability of water is the limiting factor in crop production. Without irrigation sources, only one crop can be grown in the year, and if the monsoon fails the crop fails. Given irrigation sources, three crops can be grown on the same land in succession through the year.

The first step in the agricultural work was the provision of sufficient improved rice seed (variety IR8) and fertilizer for the development of twenty acres in Kosila, the village that B.A.M. had made the centre of its activities. In September, 1968, enough wheat and potato seed, and fertilizer, to develop eight and a half acres were provided in Kosila, and four neighbouring villages. All the seed and fertilizer were supplied on credit, not as gifts to the people, and the cost of these resources was repaid to B.A.M. after the crop harvests. The three crops (rice, wheat and potato) were successfully harvested between December, 1968, and March, 1969. This was the sign for B.A.M. to extend its credit to as many villages it had built wells in as possible.

At the same time it was realized that education would have an essential role to play in the overall development of Harijan villages. Consequently B.A.M., using a grant from the Organization for Economic Co-operation and Development as well as part of the Lions Clubs funds, sponsored twenty children aged nine to eleven years at the Agricultural School in Bagha. This school was established especially for Harijan children by Dwarko Siddharani, the leader of the Bodh Gaya Ashram. The children are taught reading and writing, and they work in the fields around the school to learn simple but improved farming techniques. B.A.M. have already dug two drinking wells at Bagha, and will dig two large irrigation wells to help the school to become self-sufficient in food-stuffs. The children stay at the school for four or more years, with the aim that after this time they will be competent to return to their villages and provide the future leadership for development.

During 1969, the Gaya team, which had by now increased to nine volunteers, extended both the well-digging and agricultural work. By the time the monsoon halted well construction for the year, eighty-six wells (including the thirty-two of the previous year) had been completed in thirty villages. Eighty of these wells had been financed by the Lions Clubs, leaving twenty more to complete their project of one hundred, while six had been financed by individuals who had donated funds to B.A.M. Work on the last twenty wells will start soon.

Boring to achieve a continuous flow of water

The ground of the Gaya district contains limitless water, as the district lies within the plain of the Ganges, which receives water from an area one quarter the size of India. But for a well to yield sufficient water, it has to be dug into a good water-bearing stratum. A good stratum is one composed of sand, through which the water can percolate into the well as fast as it can be taken out by a three-horse-power pump.

It is possible to examine the sub-strata by test-boring before the well is dug. The boring is made up of a double set of steel piping, a two-inch diameter pipe within a four-inch pipe; this may be driven into the ground to a depth of a hundred feet or more. As the boring penetrates, the earth from beneath it is washed out by pumping water through the inner pipe. By examining the earth as it comes to the surface, one knows at what depth one has reached a sandy layer.

Test-borings were carried out in some cases, but the team found that it did not have time to test before each well was dug. Consequently, some wells were sunk through entirely clay strata. Although there was water present, it percolated through the clay too slowly for the well to be useful: the well would be emptied after a short period of pumping and would take days to fill up again.

As a result of this situation, one member of the team worked throughout 1969 to develop borings from the bottom of the low-yielding wells. When the borings reached a sandy layer, then a four-inch pipe with a filter on the lowest section was lowered. Then when water was pumped from the well, more water would flow through the filter from the sand, up the pipe, and into the place of lower water pressure in the well. In this way many initially unsuccessful wells were converted into good irrigation sources.

Throughout 1969 agricultural credit was extended to more villages, especially to those which had shown most enthusiasm during well-digging and most interest in cropping the land afterwards. By July about twenty villages were receiving credit. The range of resources lent had also increased. In April, B.A.M. bought twenty-one strong bullocks capable of pulling carts, and distributed them to nine of the most progressive villages. In June,

eleven bullock carts were purchased and allocated to the same villages, with one going to the Bagha school. The bullocks and carts were provided so that farmers could easily transport compost from the villages to the fields, and could transport seeds, fertilizers and harvested crops to and from the storehouse which B.A.M. has built in Kosila. It was also hoped that the villagers could increase their income by doing transport work for other people.

The cost of bullocks, carts, and other longer-term loans, like the cost of seeds and fertilizers, has to be repaid at harvest time, but the repayment of the more expensive, capital items can be made in equal instalments spread over five years.

As well as providing seed varieties, fertilizers, and plant protection chemicals on credit, the team tried to encourage the use of improved farm implements. Light steel ploughs and simple paddy-threshing machines have been introduced in some villages, replacing tools and methods that have not changed for thousands of years. The steel ploughs were successful in sandy soil, but in general proved too difficult for a pair of bullocks to pull through clay soil. This illustrates the obvious need to bear all factors in mind when attempting to design and introduce advanced implements.

Electricity brought to a village's wells

Two immensely important developments in the agricultural work, initiated in June, 1969, were the installation of electricity in the wells in Kosila, and the first efforts to form farming co-operatives of a number of villages.

Applications for the electrification of villages had been made to the Bihar Electricity Department in 1968, when the first wells were being completed. All the forms had been filled but nothing had come of it. By the middle of 1969, the B.A.M. team learnt that the Department had insufficient funds to keep up with even a fraction of the applications. There were hundreds of new pumps lying in the open at the main store, but the authorities were too poor to employ the workers needed to make all the installations. B.A.M. would have had to wait years for electricity.

Consequently the team agreed with the Electricity Department to share the work. B.A.M. would provide transport for materials, and would employ village labour to do the heavy work of moving and erecting poles, transformers, cables, etc. The Department would provide the materials and skilled linesmen for the work.

The first installations were made in Kosila, where, after borings had been developed, there were five good wells, three built by B.A.M. and two older once built by the Bodh Gaya Ashram. The water in these wells is twenty to thirty feet below the surface—too deep for the wells to be very useful when the water has to be removed by 'latha', the simple wooden machine many villagers use. Diesel and petrol/paraffin engines had been used to drive water-pumps.

These machines are much heavier and much more expensive than electric pumps, but worst of all very unreliable, especially when one is trying to get non-mechanically minded peasants to maintain them. Electric pumps are simple to maintain, and cost only about £120, including the installation and the cost of a pump house. At the press of a switch they give enough water to irrigate fifteen acres.

The work of taking electricity to Kosila was difficult and slow, largely because of the language problems and misunderstandings between the volunteers and the Electricity Department. But the work has now been finished. The whole village will be transformed from the barren place that it was for eight months of the year to seventy-five acres of lush crops growing all the year round. With the experience gained, the work of electrifying other villages will be much easier.

Co-operation to promote self-sufficiency

The formation of co-operatives made up of five or six or so villages is aimed at making people financially stronger. An agricultural co-operative is able to buy seeds, fertilizers, and other requisites in bulk, and therefore more cheaply. It is also able to sell its harvested crops in bulk, thereby getting a better price for them.

Each family will pay about fifteen rupees (15/-) as share capital to join the co-operative. With this money invested, the members will feel a greater incentive to work for the co-operative's success. The payments will also enable the build-up of the organization's own fund. Initially B.A.M. will continue to supply items on credit to the farmers, via the co-operative. At each harvest, when the farmers repay their loans to B.A.M. they will also pay an extra sum into the central fund. Eventually the co-operative will do all the buying and selling for its members.

As the idea of co-operation develops, so the agricultural volunteers will deal less with individuals, and more with village and co-operative committees. In the encouragement of co-operation especially, B.A.M. will work very closely with the Bhoodan movement. This movement will provide Village Level Workers (V.L.W.s) who will act as links between the volunteers and the Harijans. As long as B.A.M. continues to provide agricultural credit, it will supply seeds, etc., to whole villages. The V.L.W.S. will be responsible for the distribution of the supply amongst the farmers, and for keeping the individual credit accounts. As the V.L.W.S. do more of the work previously done by the volunteers, so B.A.M. agriculturalists will be able to work more effectively over a wider area.

Co-operation and education are essential to the long-term success of the whole of B.A.M.'s irrigation and agricultural project. By getting the villages to work together more effectively, building up their central fund, they can soon be made self-sufficient. By ensuring the good basic education of selected village children (and there are

now seventy children at Bagha school) reliable leaders for the future will be formed. The better B.A.M. performs these tasks, the sooner the villages will be able to continue their development independent of outside help. Then B.A.M. can move its agriculturalists to another area, though the Bhoodan movement will of course remain to help the overall advancement of the Harijans.

A model for development, and the next well-digging project

Irrigation and agricultural development are only part of the enormous development problem of India. Birth control is another, and perhaps education is the most important of all. When people are better educated they are at least able to read of the potential of new seed varieties and the advantages of using more fertilizer. The task of spreading information about birth control must also be more effective when the audience is able to read.

Brothers to All Men is a relatively small organization: its eighty-six wells in thirty villages benefit perhaps fifteen hundred families, perhaps nine thousand people, while the population of Bihar is sixty-six million people. In Gaya, as in B.A.M.'s other teams in Delhi, Calcutta, Upper Volta, Brazil and Peru, the objective is to concentrate a lot of development, in terms of volunteers and funds, in a small area to show what can be done. (There are nine in the Gaya team now—three digging wells, one putting borings in wells, three agriculturalists, one mechanic, and one working specifically with children; and £30,000 have been invested in the irrigation project.) Showing what can be done, B.A.M. provides models for development. Government organizations and larger volunteer agencies like Oxfam and War on Want can then use B.A.M.'s methods and experience on a larger scale where appropriate.

B.A.M.'s team in Bihar is at the moment selecting the Bhoodan villages in which the last twenty of the Lions Clubs wells will be dug. At the same time it is looking further afield (still with the advice of Bhoodan workers) for areas suitable for the next well-digging project. One possible location is in the hills of Hazaribagh district, a hundred and sixty miles east of Gaya. Already the team has come across a village there in which a hundred people were in danger of imminent starvation. Food corn was immediately provided, along with seeds and fertilizer to get cultivation under way. In this way B.A.M. moves on in the tremendous task of relief and community development.