Into India

One of the minarets of the Taj Mahal —a very different view of that iconic structure than the one that's usually seen in guidebooks or on postcards.

In the 1950s—before the Peace Corps existed, before Doctors Without Borders was founded—an idealistic young DMS graduate traveled to India with his family. This is his story—of working for three years at a TB sanatorium, of saving lives, of seeing his own life indelibly affected.

By Timothy Takaro, M.D.

A trio of monkeys frolicked in front of me as I drove back into the dusty sanatorium compound. They leapt nimbly from treetop to treetop, then onto the tiled roof of an open-sided patient ward, their chattering and scuffling breaking the quiet of the afternoon siesta time. The mischievous trio landed with a thump on the roof of my office just as I pulled the ambulance, our main form of transportation, to a stop. The vehicle, a shiny, cream-colored thing of beauty, bore on its side in bold, red letters the legend "Wanless Tuberculosis Sanatorium." It had been a gift from the Presbyterian Board of Foreign Missions and looked completely out of place in its drab surroundings.

As I wearily got out of the ambulance, I watched the monkeys scampering down the road toward the bungalow where my wife, Marilyn, and I lived with our two small children—who would surely be delighted to see the hyperactive creatures.

But I was hot and tired and thus annoyed rather than amused by the monkeys. I had just returned from the general hospital in Miraj, two miles away, where I'd held a clinic and assisted a colleague in the OR. A pile of paperwork awaited me back at the sanatorium, and I'd just settled down at my desk to attack it when Manohar Mane, the achondroplastic dwarf who was my secretary and interpreter, came in carrying an x-ray film and looking worried.

"Saheb," he said, using a Marathi variation of "Sahib," a polite form of address in India, "we are having an emergency."

"What's up, Manohar?"

"A man from Ichalkaranji is swallowing a railroad tie."

"Manohar, that's impossible. A railroad tie is bigger than you are."

"The iron thing that ties the rail to the wood. You can see it for yourself, right here." He held up the x-ray.

"You mean a railroad spike. My God, how did he ever get that huge thing down his gullet?"

"He is trying to kill himself, Saheb. Everyone is knowing the story."

"Okay, so tell me."

"The father is head man of the *panchayat* [a village's five-member governing body] in Ichalkaranji. He is having two sons. One of them is a TB patient here in Wanlesswadi. The other is falling in love with a Christian girl. The father is forbidding him to see the girl, so the son doesn't want to live any more. But no one is expecting him to do this!"

"This is unbelievable! How crazy can someone get? Well, tell the OR people to get ready. We'll have to esophagoscope him. Maybe we can shove the spike down into his stomach with the scope. It would be a lot easier to take it out through his abdomen than his chest. Where is the patient? What's his name?"

"Shivaji, Saheb. He's in x-ray—no, here they come now."

A small, black Hindustani auto came around the corner and drew to a stop. Five men were somehow squeezed into it. One of them—wearing a purple turban and a gray-white *dhoti* (a length of cloth wrapped around the wearer's body and brought up between the legs, typical villager's garb)—extricated himself from the car and planted himself in front of me. "Is my son going to die?" he demanded.

"No, I don't think so. I think we can get the spike out. He should be okay." This exchange took place with Manohar interpreting.

It was as Manohar had said. The father had tried to nip his son's romance in the bud, and so Shivaji had tried to commit suicide by swallowing a railroad spike. It was about six inches long, more flat than square, and loomed enormously large and white on the x-ray film. It had lodged just above the boy's diaphragm and behind his heart. He was drooling excessively, since he was unable to get even his own saliva past the obstruction, and he looked miserable. I tried to cheer him up, but it

Author Tim Takaro, second from the left, and several of his colleagues—including Manohar Mane, center—at the beach.

Takaro, a 1942 graduate of Dartmouth Medical School, is a retired thoracic surgeon and former chief of staff at the VA Medical Center in Asheville, N.C. He has written several previous features for Dartmouth Medicine, *including "The Man in the Middle" (Fall 2004), about the role played by Dartmouth College alumnus Basil O'Connor in the development of the Salk polio vaccine, and "The Dufek File" (Winter 2005), about his own role in the first pacemaker implantation performed behind the Iron Curtain. All of the photographs accompanying this story are ones that either Takaro or (in the case of photos that include him) a colleague took during his family's time in India in the 1950s.*

India's vice president during his 1957 visit to the Wanless TB Sanatorium.

By the mid-1950s, pulmonary resection—the excision of a portion of the lung—had begun to displace thoracoplasty. My charge was to teach Indian surgeons the newer procedure, which was much more complicated for the surgeon and much riskier for the patient, but also more definitively curative.

was cumbersome through an interpreter, so I soon gave up. Instead, I set about getting a look at the object from within as quickly as possible.

When at last I saw the spike through the esophagoscope—a long tube with a tiny light at its end, which I'd passed down the boy's throat—the object filled the entire visual field. Miraculously, his esophagus appeared to be uninjured. However, I couldn't budge the mass from where it had lodged. Clearly, a thoracotomy—surgery through the chest wall—would be necessary to remove it.

I summoned Drs. Archie Fletcher and Jim Donaldson, colleagues at the hospital in Miraj, by sending a *chit*—a note by bicycle-messenger, there being no phones. Together, we opened the boy's chest, made an incision in his esophagus, lifted out the spike, and, after irrigating the area thoroughly, sewed up the soft, muscular tube. Mercifully, there were no complications. Shivaji recovered and the spike became a paperweight on my desk. I soon forgot about him, for other crises were brewing.

Marilyn, who is a nurse; our two small children; and I had arrived in India two years earlier, in 1954. We were motivated not so much by the conventional missionary zeal to proselytize, but by a sense of adventure and by humanitarian impulses more characteristic of the Peace Corps, though that organization had not yet come into existence. The Presbyterian Board of Foreign Missions, needing a thoracic surgeon in India, had agreed to overlook Marilyn's and my "Unitarian leanings," as they put it, and had appointed me to the post of director of surgery at the Wanless San. My primary charge was to establish a thoracic surgery training program.

I soon realized achieving that goal would be complicated by the fact that Dr. M. Paul, the medical superintendent of the sanatorium, was not a happy man. (Although I worked with Dr. Paul for several years, I never knew his first name. As did most Indians then, he used just an initial rather than his full first name.) A beefy, dour, dark Dravidian in his mid-fifties, Dr. Paul was from the Tamil region in the south of India, where English instead of the national language, Hindi, predominated. He and his wife lived on the other side of the grounds and, in part because of their linguistic isolation from the rest of the Indian staff, kept to themselves. He had been appointed because of the Mission Board's policy to staff the sanatorium exclusively with Christians; Dr. Paul had been the only such candidate available.

Dr. Wilfred Jones, my predecessor as director of surgery, had taught Dr. Paul how to perform thoracoplasties. In the era before antimicrobial therapy, this operation was the standard surgical treatment for pulmonary tuberculosis. It involved the removal of several ribs from the upper third of the rib cage; this allowed the muscles of the chest wall, once they were no longer supported by the ribs, to collapse the upper part of the lung, where the disease was often more prevalent. The interior of the chest cavity was not entered at all.

It was a relatively bloody and crude procedure, but simple enough that most physicians without surgical training could perform it. And patients usually survived, if painfully, and improved. For those who were fleshy enough, and conscientious about exercising their shoulder muscles, the deformity of the chest wall was often minimal. Not many Indian TB patients could be described as fleshy, however; the asymmetry in the shoulders of most patients who'd undergone a thoracoplasty, even many years earlier, was usually very apparent.

But by the time I arrived in India, in the mid-1950s, pulmonary resection—the excision of a portion of the lung—had begun to displace thoracoplasty as the operation of choice. My charge was to teach Indian surgeons the newer procedure, which entailed entering the chest cavity to remove the diseased portion of the lung (or sometimes an entire lung). This was much more complicated for the surgeon and much riskier for the patient, but also more definitively curative. In the U.S., learning to do lung resections required a grounding in general surgery plus two additional years of training in thoracic surgery.

Herein lay my dilemma—the root of the dispute between Dr. Paul and me. None of the staff physicians at Wanless had any formal training in general surgery, so none of them were qualified to be trained in thoracic surgery. Aside from the simple rib-removal procedure, they knew nothing about surgery. The principles of surgical physiology and surgical anatomy were a mystery to them. This "minor" problem had never occurred to the Mission Board. For me, it was an unwelcome discovery.

During my first year at the sanatorium, I tried to recruit young Indian general surgeons who wanted to study thoracic surgery—but found no one qualified. When I operated myself, I had to call on my American colleagues in Miraj for assistance. Finally, I identified two promising trainees. Unfortunately, both were Hindus and thus non-Christian. But they had completed good surgical training programs in Poona and were eager to learn thoracic surgery, so the Mission Board allowed me to take them on.

Dr. Paul, however, was not convinced that he lacked the background to learn thoracic surgery. After all, he was the medical superintendent. It galled him to be shut out of a major part of the sanatorium's activities. In retrospect, had I been more mature and perceptive, I would have recognized the seriousness of the loss of dignity he must have felt. Here I was, a much younger man from another country, taking over the surgical program and excluding him from a significant portion of it.

We fell into an uneasy working relationship. My path crossed his mostly at x-ray conferences, where we studied the chest films of our TB patients to identify which ones to consider for which surgical procedure. Over time, the simpler rib-removal operation was being used less and less, because of its shortcomings. As a result, Dr. Paul was doing fewer and fewer operations himself. His habitual scowl deepened with each succeeding week. He could hardly abide the two young, eager Hindu trainees, who were learning quickly.

The medical staff at Wanless; author Tim Takaro is on the far left and Dr. Paul is second from the right.

Enter the vice president of India. As it happened, the 25th anniversary of the founding of the Wanless San fell during my stay there. The facility had been established as the final act of Dr. William Wanless, a Canadian physician who was knighted for spending his career starting up medical institutions in western India, including Wanless General Hospital in Miraj.

For the 25th, the sanatorium got all spruced up—after its own fashion. The walks were raked and the wards were cleaned. The ward buildings were not much more than simple open-sided sheds, however, so there wasn't much more that could be done, since they had no paintable surfaces. But the sign out by the road, proclaiming "Wanless TB Sanatorium," did get a fresh coat of red and white paint. This was the road that led to Miraj, the site of the region's large, busy general hospital and of a small medical school. Our sanatorium was merely a tiny satellite of that busy hub. So it was a surprise to have as prominent a personage as the vice president of India, Sarvapalli Radhakrishnan himself, come to our backwater village. I suspected the honor was due to the emphasis India was placing during those years on the control of tuberculosis.

Sarvapalli Radhakrishnan cut a graceful, dapper figure. It was impossible to tell how old he was. He looked ageless in his long, white Nehru jacket, with a red rose pinned on his chest in the manner affected by Jawaharlal Nehru himself. He was fluent in English and warmly regal in his manner. He clearly enjoyed his role. Somehow I found myself at his side as his guide. He seemed genuinely interested in the newer ways of managing tuberculosis and allowed me to babble on enthusiastically as we toured the sanatorium grounds. "I must tell Amrit Kaur—she's the health minister, you know—about this," he said. At the end of the visit we were photographed together. Dr. Paul, scowling blackly, lurked in the background of the image.

The day after the visit, at our regular x-ray conference, Dr. Paul made a sudden pronouncement. There would be no further training of residents in thoracic surgery until all of his own staff physicians had been trained. A stunned silence fell over the conference. There was no further discussion. There was nothing to discuss. He knew no one on the staff was qualified for the training, since they all lacked the requisite background, so he had placed an insurmountable obstacle in my path. He had, in effect, given me an invitation to resign. He knew there was no way I could meet his demand.

The day after the vice president's visit, at our regular x-ray conference, Dr. Paul made a sudden pronouncement. There would be no further training of residents in thoracic surgery until all of his own staff physicians had been trained. A stunned silence fell over the conference.

"Well, we might as well start packing," I told Marilyn later. "There's nothing more I can do here. Dr. Paul just killed the training program."

My colleagues from Miraj, Archie and Jim, who had been helping get the program off the ground, brooded with me. They agreed with Dr. Paul on one point—that we should train Christian surgeons in preference to non-Christians. But since there were no qualified surgeons of the requisite religious persuasion, the point was moot and they recognized my dilemma. "Too bad," they said. "Nice try. Maybe we should move the program to Miraj."

Dr. Banerjee, the most promising of the two young trainees who now found themselves out of a job, came to offer condolences and to ask my advice. We talked about the Medical College in Vellore, near Madras—a first-class place, where thoracic surgery had gotten its start in India. I was

A patient at the Wanless San, showing off the incision from his chest surgery.

touched when he gave me a volume of the poems of Rabindranath Tagore as a farewell gift.

Marilyn and I began, reluctantly, to make plans to resign from the Mission Board a year before the end of our three-year contract. That meant we'd have to pay our own way home, which would be a serious financial setback. But we didn't see any other alternative.

Gloom settled palpably about the place. We made rounds perfunctorily, in a dream-like state of disbelief. We performed operations that were on the docket, but no new ones were scheduled. The residents prepared to leave.

Then fate struck like a thunderbolt, abruptly and decisively. Manohar charged into my office, announcing the news: "Doctor Saheb, Dr. Paul is dead! He had a heart attack at home and he dropped dead, just like that!"

How could a single event, a subtraction, solve so many problems? It was a tragedy, no doubt about it. Dr. Paul was in the prime of life. His lonely widow became more reclusive than ever (indeed, many months passed before she could be persuaded to vacate the house assigned to the superintendent). Nevertheless, the atmosphere changed abruptly; the sun seemed to shine again. The training program proceeded as before. I was made acting medical superintendent, as well as director of surgery. I knew I'd now be able to serve out my contract.

Shivaji's brother, Dev, was a TB patient at Wanless. At the ward building, Manohar and I found him hidden by a crowd around his bed—attendants and curious fellow patients. Dev was lying on his side, coughing into a basin on the floor that was half full of blood. His frightened eyes sought out mine.

Less than a month later, it was again Manohar—grave and bustling with importance—who brought me word of another emergency. "A patient from Ichalkaranji is hemorrhaging, Saheb," he said. "It is Shivaji's brother. I think you need to see him. He's in the second men's ward."

As Manohar and I walked the short distance to the ward, my thoughts flashed back to the boy who had swallowed the railroad spike. Shivaji's brother, Dev, was a TB patient at Wanless. At the ward building, Manohar and I donned face masks and Manohar fetched Dev's chest x-rays. We found him hidden by a crowd around his bed—ward boys (male attendants) and curious fellow patients. Dev was lying on his side, coughing into a basin on the floor that was half full of blood.

A nurse, sitting on Dev's bed taking his blood pressure, looked up. "This boy began to cough early this morning, Doctor Saheb, and hasn't been able to stop. We've tried pituitrin injections and ice on his chest. Nothing has helped. He's lost about 500 cc's so far, but his blood pressure is still okay. His pulse rate is fast, but it's not weak."

Dev was about 20 but looked older. His frightened eyes sought out mine. While I stroked his shoulder awkwardly, I held his chest film up to the light of the sky. "Try to stay on this side as much as possible, Dev," I told him. "We're going to have to take out the upper half of your lung, where your cavity is, to stop the bleeding. We'll try to do it this afternoon, as soon as we can get things ready. Where's your father?"

"They've sent for him, Doctor Saheb. Please help me."

"We'll do the best we can. Don't worry."

I tried not to betray my own anxiety, but things looked grim. To operate in the face of active bleeding was dangerous, because the patient could easily drown in his own blood. But I couldn't just let the boy bleed to death without trying to stop the hemorrhage. To complicate matters, the man who traveled every week to Bombay, 300 miles away, to fetch the bottles of blood that we used for transfusions would not make it back to Wanlesswadi until tomorrow afternoon's train. We would have to try to persuade the patient's relatives and friends to donate blood, since it was unthinkable to begin surgery without at least four pints on hand. In the past, persuading local people to donate blood had been unsuccessful, hence the need to resort to the distant commercial blood bank. I did not think Dev would make it until the next day, at the rate he was hemorrhaging.

I asked Manohar to assemble family and friends from Dev's village.

"Saheb, you know they're not going to give blood," he told me. "They never do. They are always afraid. That is why we are having to send to Bombay."

"I know, but we have to try once more. This is a really serious business."

Within an hour, a motley assemblage of skinny, scruffy, *dhoti*-clad villagers, including Dev's father in his purple turban, gathered at the office steps. Shivaji was there, too, still looking a bit frail. I exhorted and pleaded for them to donate blood, Manohar translating. The men looked glum and shifted their feet. Only Shivaji offered to donate blood for his brother. He looked so puny himself, I was almost afraid to bleed him at all; at most, he might be able to safely give half a pint. But that was a ridiculously small amount of blood with which to begin a major thoracotomy on a patient who had already lost a large amount.

Jim and Archie, whom I'd summoned urgently from Miraj, arrived while I was making my plea for donors. I paused and quickly explained the situation to the two of them. "Guys, this is very bad," I said. "We haven't got but half a pint of blood promised, and Joseph isn't due back from Bombay until tomorrow. The kid isn't going to make it that long."

Archie was fluent in Marathi, having been in Miraj for five years. He addressed the group directly and vehemently. They continued to shuffle and to drop their eyes. The father asked: "Is my son going to die?"

"Very likely, if you don't donate some blood."

"Then it is God's will."

I began to feel anger welling up. But Jim, an eternal optimist, suddenly grinned and broke in: "Hey, guys, I'm a universal donor," he said. "I can give blood and we won't even have to cross-match it." It then occurred to me that I was a universal donor, too, and that the patient was a universal recipient. He could accept all four blood types.

Archie, unfortunately, had been in India long enough to have contracted both hepatitis and malaria, so his blood would not be suitable. But we now had enough to proceed, if just barely. I drew a pint from Jim, and then Jim bled me in turn. Shivaji went last. With Jim and me still feeling mildly wobbly, we set about our tasks. Jim, a skillful orthopaedic surgeon, was the designated anesthesiologist (for lack of anyone trained in the specialty). He used the simple, time-honored method of open-drop ether with a face mask—though the job was complicated by the fact that the coughing patient was still on his side to try to keep the bleeding confined to the diseased lung. Once Dev was unconscious, Jim intubated his trachea and was able to block off the bleeding bronchus with a balloon at the end of the endotracheal tube.

Archie was assisting me in the actual surgery. Once all was in readiness for the incision, Archie, as was his custom, asked for a moment to say a short prayer. Ordinarily I was impatient with such displays of religiosity, but that day I felt we could use all the help we could get, so I bowed my head, too.

The three of us worked well together. It was the fastest right-upper lobectomy I'd ever performed. We used up the two and a half units of blood we'd just drawn—plus copious quantities of saline and dextrose solution, as temporary blood substitutes—and were surprised and gratified to see how well Dev responded immediately after the operation.

"It's because he's so young," we decided, and of course we were right. However, the first postoperative night in the recovery room was harrowing. I spent it listening to the soft whirr of the chest tube pump, as I watched fluid accumulate in the collection bottle. I was anxiously waiting for its color to turn from bloody to amber, which would indicate the cessation of active bleeding.

I knew that I wouldn't be able to do much more for Dev if the usual postoperative bleeding did not cease, or at least diminish, within 24 to 36 hours.

A garlanded Takaro (seated, center, with his son standing next to him)—and other San staff—with a thankful patient (in black) and his father (far right). This is not the family from Ichalkaranji, however.

But when it did, I felt sure the boy would recover.

Either his father or Shivaji, or both, came to visit Dev every day, bringing special food from home in stacked metal containers. With this kind of encouragement, Dev's appetite soon returned and within 10 days he was back on the regular ward and beginning to walk a bit.

The family once again dropped from my attention. About a year later, long after Dev had been discharged, my three-year term was almost up. As I began to clean my cluttered office, I uncovered an ugly, six-inch-long iron object—the railroad spike that Shivaji had swallowed.

The family once again dropped from my attention. There were so many other problems—from the financial troubles the sanatorium faced to the lack of a bronchoscope small enough to safely retrieve the foreign objects that infants often inhaled as they crawled about.

About a year later, long after Dev had been discharged, my three-year term was almost up and it was time to start packing for our return to the United States. As I began to clean my cluttered office, I uncovered an ugly, six-inch-long iron object—the railroad spike-turned-paperweight that Shivaji had swallowed. When my diminutive secretary came in with another load of books and files, I asked him about that memorable patient.

"Manohar, whatever became of that young man from Ichalkaranji who swallowed this monstrosity. And wasn't that his brother who nearly died of lung hemorrhage here as well?"

"Yes, Saheb, that is right. The story I am hearing is that after their father discovered that his son Dev was receiving the blood of two Christian Doctor Sahebs, he was removing his objection to his

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An Amazing Human Being

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And so does Dr. J. Michael Bishop, who won the Nobel Prize in Physiology or Medicine in 1989 for clarifying the origin of cancer. Since 1998, he has been chancellor of the University of California at San Francisco. When Bishop was a medical student at Harvard, he talked his way into working in Pfefferkorn's lab—something that was unusual at the time. Bishop has commented many times that it was a seminal experience in his career. "My work with Elmer was sheer joy," he says in his autobiography on the Nobel Prize website.

As for Bishop's mentor, Pfefforkorn merely says, modestly, "We tackled a research project. All he learned from me was the frustration of doing research. Well, the pleasure of doing research and also the frustration, I guess. At any rate, he very generously credits me."

That's Elmer Pfefferkorn: Modest. Humble. Unassuming.

And generous. Wise. Loyal. Dedicated. Inspiring. Beloved. Truly beloved. ■

> I found animal virology in the form of an elective course taken when I returned to my third year of medical school, and in the person of Elmer Pfefferkorn. From the course, I learned that the viruses of animal cells were ripe for study with the tools of molecular biology. . . . From Elmer, I learned the inebriation of research, the practice of rigor, and the art of disappointment. I began my work with Elmer in odd hours snatched from the days and nights of my formal curriculum. But an enlightened dean gave me a larger opportunity when he approved my outrageous proposal to ignore the curriculum of my final year in medical school, to spend most of my time in the research laboratory. . . . Flexibility of this sort in the affairs of a medical school is rare, even now, in this allegedly more liberal age. My work with Elmer was sheer joy.
>
> — J. Michael Bishop, 1989 Nobel Laureate

Into India

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other son marrying the Christian girl Nalini. Saheb-ji, they are already having their first baby. They are giving him a Christian name. They are naming him after you."

"What? No! Really! Why haven't you told me this before?"

"They asked me not to, Saheb. They are not sure you would be giving permission. Also, in India, it is the custom when they name a baby after you that you are the boy's second father and mother. That is a great responsibility, Saheb. They knew you would return soon to America, so they did not want to put the burden on you."

"Well, isn't that something! I'd really like to see them—and the baby, of course."

Word was sent to Ichalkaranji, and the young couple appeared at my office, smiling and embarrassed and bearing a very small baby. It was the day before we were to depart. The mother held the black-haired infant proudly as he flailed his arms and legs about in the bright sun.

I hugged all three of them in one embrace and pressed an envelope into Shivaji's hand. "This is part of my responsibility," I said. "Make sure he goes to a good school. Maybe the one in Sangli." This was a school for mechanics that the Presbyterian Mission had established in a neighboring town. "I'll be thinking of all of you," I added.

"Thank you, Doctor Saheb. We will be remembering you, too. The little one will be here always to remind us."

The image that remains most vivid for me, more than 50 years later, is of the slender vice president, Shri Sarvapalli Radhakrishnan, in his immaculate Nehru jacket. When he swooped down on our little village from the empyrean heights of New Delhi, like a shining white knight, his visit seemed to initiate the dramatic train of events that first plunged us into deepest despair, then offered miraculous release.

How inscrutably, in the words of Omar Khayyám:

The Moving Finger writes; and,
having writ,
Moves on: nor all your Piety nor Wit
Shall lure it back to cancel half a
Line,
Nor all your Tears wash out a Word
of it. ■