training posts, but these are not problems that can be looked at in isolation. The problems of postgraduate education are in many ways similar to those that bedevil undergraduate education, and many doctors feel that it is time for a total reorientation of medical training. A few suggest abandoning attempts to emulate the West and stop presenting India's image abroad as a country that is abreast, if not in front, of all the latest advances in high technology medicine. It is not that they aren't, nor that they can't (several of the larger hospitals, especially those in the private sector, can provide the sort of care that is available in any specialist Western unit) it's just that this form of medicine exists in parallel with an inadequate system of health care which leaves 80% of the population with little or no access to Western medicine and this must change.

Changes have been introduced to try to reorientate the student and young graduates towards community health, but few doctors I talked to believe that it has achieved anything worth while. Nor did they hold out much optimism for the future. Many spoke of lack of leadership from the top and criticised those in positions of authority, especially the state directors of health services and health education for failing to implement existing recommendations. Key positions in both central and state health administrations are, so I was told, seldom given to those with the ability and drive to push for change. And even if they were, the opposition to change is formidable. One doctor used the analogy of the lobster pot to make his point. India, he said, is the one country that does not need to put a lid on the pot, no lobster will ever climb out; the others will always hold him back.

The Indian Medical Council came in for criticism from some doctors although with many and disparate medical colleges to keep track of it clearly has a difficult task monitoring standards of education and introducing changes in the curriculum. That many doctors are bluntly stating that it is failing on both counts was disquieting; as was the view of a doctor at the ministry of health who described the council as a paper tiger too weak to get its decisions implemented. Thus although the council has taken some colleges to task about falling standards and issued threats of closure and derecognition of degrees there is a widespread belief that in practice this means very little. If a state government supports a given college and the university concerned awards degrees, graduates may practise freely within the state (and usually outside it too) irrespective of whether it is officially "recognised" or not. This illustrates the autonomy and power of the state governments and it seems that there is little hope for improvement in the standard of medical education or of an effective reorientation of the medical course until these—and indeed the health of the community as a whole—are regarded as politically desirable objectives.

Letter from . . . Chicago

Hearts from monkeys and machines

GEORGE DUNEA

The recent breakthrough in heart transplants—hearts from monkeys and hearts from plastics—gave rise to a multitude of different reactions. Some people hoped it would open the way for heterotransplantation of the brain, an organ where rejection or mechanical breakdown might be unimportant and leave recipients no worse off than before. Economists warned about a baboon supply crisis and suggested using skunks, rats, and jackasses. Somebody suggested giraffes for stiffnecked politicians and ostriches for birdbrained legislators. In the interest of national safety a reporter proposed that all politicians given plastic brains should have to make full disclosure of the fact; and there were fears that recipients of baboon brains might behave badly at formal dinners, throwing nuts, munching bananas, or swinging from priceless chandeliers and making faces at the distinguished guests.

The monkey transplant stirred up the professors of ethics. These wise arbiters of human behaviour, though not necessarily seeing eye to eye, all had something important to say. Some approved of this "dramatic advance," but others thought it was "very, very unfortunate" and wished the money had been spent to feed Ethiopians. Animal rights supporters, mostly carnivorous and in leather shoes, picketed the Seventh Day Adventist University, whose motto is "To make man whole," but were met by opposing demonstrators who had no objection to achieving wholeness with a little help from the animal kingdom. The newspapers also had a ball about the 14 day old Baby Fae and its walnut sized new heart, publishing pictures and charts, explaining how the baboon aortic arch had only two branches, how Mother Fae was separated and her husband on welfare, her boyfriend loving to ride motorcycles, the truckers and cowboys at the local pub playing pool, listening to the jukebox, and dropping coins into the Baby Fae collection coffee can.

Then came the bureaucrats, promising to investigate if everything was done right—not that they thought anything was wrong. Some people said the surgeon should have found a human heart, and there was talk about prolonging suffering and about helping the doctors more than the baby. But the man in the street seemingly took the position that "science cannot wait for ethics to catch up." In a national poll 63% of adults approved of the surgery and said they would have tried it to save their own child's life. In a Chicago poll, likewise, most people came out for the transplant, saying that they could not see how it could hurt, as long as there was no cruelty to the animal.

Plastic and aluminium heart

So for three weeks we read how Baby Fae lived with its baboon heart, how the respirator was discontinued and feedings resumed, how the baby was well and pink and warm, finally how rejection set in and the kidneys shut down. Then the surgeon declared that the baby had not died in vain and that he would do it again. But now another surgeon stole the show, this time with a heart of plastic and aluminium that had taken 20 years and $200 million

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to develop. Weighing some 300 g, it was implanted by a team of six doctors and 11 nurses working to the strains of Felix Mendelssohn. Two cameras filmed the historic event as the surgeon cut out the old heart and put in the new. Then we read how there was a secondary haemorrhage requiring 16 units of blood, "a major complication but not a setback"; how the patient drank a milkshake; how he had a stroke but recovered amazingly; how he took a few steps to the chair; and how he could hear the heart beat and thump but it did not worry him.

What did worry some people, however, was that the transplant was done by the for profit Humana Corporation, which owns 90 hospitals throughout the country, including Audubon in Louisville, and which last year declared a profit of $200 million on gross revenues of $2 billion. People concerned about large corporations dominating American medicine questioned Humana's motives in investing so heavily in a project that even the federal government had been reluctant to support wholeheartedly. There were comments about publicity, profits, skimming from the public sector, and the private sector benefiting from years of research paid for by public dollars. There was also the question whether Humana would apply the same rigorous scientific process as a university hospital would, publishing findings and techniques in detail, having necropsies and peer review, setting up residency programmes to train young surgeons, rather than merely making money. All of which sounded like a cogent mixture of valid criticism and sour grapes, but then there is always so much to be said on both sides of the affair. Once again the ethicists were in the forefront, but meanwhile dozens of patients with heart disease wrote to Humana inquiring about the prospects of getting a new heart.

All this might easily lead to a discussion on rationing health care, a subject so dear to the hearts of planners, philosophers, politicians, pragmatists, professors, press people, pessimists, and public relations persons. In which context we note a report from the Office of Technology Assessment airing concerns about the overall cost of medical care in general and of Medicare in particular. This latter programme now serves 30 million "senior citizens," and its cost is increasing by 19% per year. In 1982 the total bill was $52 billion, representing 60% of all federal spending on health, with $36 billion going to hospitals and $11·4 billion to the doctors. For 1984 expenditures were expected to have exceeded $65 billion.

In reviewing the relation between medical technology and reimbursement the report found "substantial evidence that inappropriate use of medical technology is common and raises costs without improving quality of care." Contributing to this problem are the prevailing reimbursement policy, public demand for advanced technologies, the desire of doctors to do as much as possible for their patients, competition among hospitals to achieve quality and prestige and attract patients, the fear of malpractice suits, and the uncertainties about what constitutes appropriate care.

Complex technologies

The report discussed the specific problems of complex technologies such as plasmapheresis, coronary bypass surgery, dialysis, and transplantation. It commented on the impact of new techniques such as home total parenteral nutrition—300 patients treated in 1978, 4000 in 1983—of whom some 22% are Medicare beneficiaries, costing the programme $20-40 000 per year for each patient, or a total of $28 million. It also addressed the issue of the intensive care units, where the sickest patients, many of whom do not survive, consume a disproportionate high share of costs. And it concluded by emphasising the need for new methods of reimbursement and for better ways of evaluating new or outmoded forms of treatment.

Then came a second report from the same office, addressing the issue of how hospitals will handle its sick intensive care patients when the impact of the Medicare prospective reimbursement system becomes fully felt. As patients in intensive care turn into revenue losers or even financial disasters, the hospitals may refuse to admit them, transfer them to "tertiary" facilities, "dump" them on city and county hospitals, or apply unwholesome pressures on its medical staff. Again, one sees a potential conflict between private and public systems, especially if private hospitals were to keep the profitable patients and send out the sick ones. Where heart transplants would fit in this scenario remains to be seen, but already the prospect of the heart becoming a replaceable organ is worrying some columnists. If indeed the site of love and chivalry were to be transferred from the precordium to the right hypochondrium, we may end up with brave livers, broken livers, liver felt thanks, liver ache, and people carrying their liver on their sleeve. Lovers will send Valentine cards with little liver designs, and instead of giving all their heart young men will sing about giving all their liver.

Still on the subject of love, we note that *Chicago Sun-Times* columnist Ann Landers published a letter about an impotent man desperate to receive a penile implant, knowing how deprived and unfulfilled his wife would otherwise remain. But another woman wrote back saying that this was merely the man's ego talking and that he was totally ignorant of the workings of the female mind. She then challenged the columnist to ask 100 women how they felt about the sexual act, predicting that 99% would say "just hold me close and be tender and forget about the act."

Miss Landers took up the challenge and received not 100 letters but 90 000, some three to four pages long, her mailroom becoming a disaster area. She found that 72% of women, over half of them under 40, thought that tenderness, a hug, a gentle touch were more important than actual intercourse. Many women claimed that they were exploited, abused, not valued, not cared about. One woman said she had been raped four times a week all her life, another that sex to her was merely a duty. Then came the experts, variously thinking that women were searching for meaning in their sexuality; that women were less genitally oriented than men; that many preferred ambiance, atmosphere, and affection; that ideally one should have both love and sex; or that the sexual needs of men and women were different. "Men crave a woman they don't speak to, a woman at the beach, a woman walking by." One "sexpert" thought that there may be a swing of the pendulum from sex without affection to affection without sex, and hoped a happy medium could be found. But Erica Jong, author of *Fear of Flying*, was sad that so many women had never experienced sexual passion and hoped that it would not come down to a choice between love and sex. Finally, Helen Gurley Brown, author of *Sex and the Single Girl*, lashed out at instant sex, but spoke up for the orgasm, saying that one could get affection from almost anyone, even from one's homosexual boyfriends, but that a good orgasm is what it's all about.

But for some it is pomp and tradition that it is all about. So that when a delegation of politicians and businessmen from rural Illinois visited the House of Lords last year, they were greatly impressed and not a little awed lest they would do something contrary to protocol. The group was shown around by a friendly lord, who was greeting his colleagues with great effusiveness. "Neal," he shouted suddenly, waving his arms. Upon which the visitors behind him, most of whom could hear but not see what went on before them, promptly went down on their knees.