

“ For a long time now materials sciences have been a forgotten under-funded discipline in India. To tell the truth, one could say the same about Old Europe – manufacturing industries had slipped into low profit margins, and business focus has shifted to Capital Markets Management,” said Vijay Kumar, launched into his powerpoint presentation at the Ninth Global IT for Development Conference in the many chandeliered hall of the Sheraton. “ But with President Bush bringing the spotlight back on Space Probes, the spot in turn has moved back on *nuu* materials technologies. I’m into hardware, and I tell you guys, come join me! It’s the most exciting ride you can get, anywhere in the world!” Applause broke out all over the hall, and young Indian aspirants to an American way of life stood up and clapped, more in celebration of Vijay mixing his American accent with his broader Andhra. “ We are all into social engineering, right?” continued Vijay. “ This country is changing so *faast*, like you wouldn’t believe. And the guys over at the Bank – the World Bank, y’know – at the other duller end of my country, *wal*, those guys keep talkin’ about developing *hooman* capital, but that’s yesterday’s thought, we should be talkin’ about *hooman* materials engineering!” He shrugged his shoulders in an expressive American way, and splayed out his hand, to renewed applause. “ You guys have seen the space-shuttle make I don’t know how many re-entries into the atmosphere. Temperatures in the nose of the craft go up – oh, I dunno – maybe a couple of thousand degrees Celsius, and you need *nuu* materials to withstand that kinda’ heat. It’s just like the old way of making alloys, only now it’s no longer junior league. The same analogy can apply to Society. We need to harden Society to take the *heat of progress*, create *nuu* elements through social engineering, and meld them together to hold for *take-off*!”

The Minister of State for Rural Development was a large, slow, hardened politician who had risen by looking for the main chance. Though the young speaker annoyed him with his airs, he was impressed by the appreciation the talk received from the circle of American millionaires in the audience, and guessed that sizable investment might flow into his constituency if their support was properly harnessed. The director of the State Institute for Human Resources Management, a distant cousin of his, then stood up and said he would establish a Chair for Human Materials Engineering, if American friends in the audience would help fund it. The millionaires, who had been thoroughly briefed by their staff about the local network of familial relationships and decision-making, stood up to a man and clapped in assent, each figuring out channels of profitable investment in fast food franchises, fashion stores, up-market leather goods, Indian textiles re-exported back, and so on.

Quickly, a department grew under the newly-established Chair, and several needy lectures with political connections secured tenures, though the plum post of the Chair itself was kept vacant till a suitable incumbent could be rewarded by the party in power. Professor Gundu Rao, who had retired as head of the department of mechanical engineering was billed for the post since most of his academic career he had spent wheeling and dealing with real estate agents for land purchases, as a proxy for politicians in power. However, when his name came up in high party circles, it was blocked by a dynamic young politician, who also happened to be the son-in-law of the chief minister. A few years ago, when he was still unmarried and a student, his paper had been ridiculed in a conference by Professor Gundu Rao, who had risen to humorous heights while

tearing it to pieces. Blocking his appointment to the plum post was payback time for the political son-in-law, who said disinterestedly that really the post should go to a leader from civil society, who had actually, in the field, so to speak, ‘melded human materials to harden society.’ This interjection confused the clutch of low-level politicians in the committee, and one of them, thrashing about to understand the new turn of events, came up with Sharmaji’s name. Precisely, said the son-in-law, as further humiliation of Professor Gundu Rao being passed over for a nobody. Since the son-in-law had spoken, all the others assented, and hence to everyone’s surprise, including himself, Sharmaji was offered the Chair of Human Materials Engineering.

As he himself told his friends later, Sharmaji had expected something grander than the poky little office he was shown, with its broken down air-conditioner, and sticking tape holding together broken pieces of glass in the windows. There was also a faint smell of mouse droppings in the room, which the superintendent assured him would be cleaned with Lysol before he took charge. Sharmaji was disappointed to hear from the director that for the present the appointment was an honorary one, since the initial endowment had already been spent in recruiting academic staff, an accountant, and three attenders. However, the Americans had promised an enhancement next year related to performance, which everyone in the Institute was sure would be exemplary since Sharmaji had very kindly agreed to accept the Chair. However, Sharmaji was cheered to hear that some travel allowance was available, and that his duties were no more onerous than giving one ‘Oration’ a year during the convocation ceremonies. An attender was appointed exclusively for his use, in the office, and *at home*, stressed the director.

Sharmaji had new visiting cards made, giving him the title of ‘professor,’ and he made a point of attending several seminars around the country at which he spoke with his usual eloquence about the misery of the poor, accompanied with anecdotes about the unacceptably high life styles of the rich, and how transnational culture made him wonder many times whether he was in Hyderabad or New York; and finally how the need of the hour was to strengthen democracy by strengthening the hands of civil society leaders. He became quite a proponent of human materials engineering, and when young civil engineers, pardonably confused, asked for his advice in some construction project, he did agree to visit the site wearing a hard hat, and nodded sagely at their explanations.

He saw the role of materials everywhere. He commented adversely to his wife on the material of the dough in his *roti* over dinner. He wrote articles in the papers about the poor quality of materials used on the city roads, or in drains, or over city parks. He convinced the director of the institute to spend freely to improve his office, since as Chair of Human *Materials* Engineering, it reflected poorly on the institute and its prospects to receive donations if his office were in a shabby state.

But, of course, human materials engineering was his forte. What was ‘the tensile strength’ of their micro-finance operations, he would ask Dasgupta, when discussing the money-lending activities of his Society? Work plans had to ‘gel’ better; work teams should be ‘compacted,’ for improved results. Could his colleagues work out a human MOH scale for evaluation? The fad turned into an obsession; he began to believe in human materials

engineering; drew charts, fanciful scales of measurement; and indicators of human materials engineering. He convinced himself that he would put together a new universal model for measuring progress that would knock into a tall hat all older ideas about GNP, GDP, purchasing power parities, social indicators of the UNDP. It would be the Sharma Index that people would refer to in future.

Venkat had an unemployed nephew, Rajni, who was waiting to go America with his IT skills. He sat in front of Sharmaji's computer with the flair of a pianist to give instant shape and life to any of Sharmaji's fantasies. Rajni took digital pictures of village women at work, and converted them into moving, multi-coloured charts displaying varying human materials. He could convert a block of statistical tables into moving shapes of people, cubistically presented to indicate degrees of hardness. Sharmaji's powerpoint presentations became the center-piece attraction of many an academic conference.

Sharmaji was gratified to get a call from the Prime Minister's office one morning, requesting him to address a special meeting of the Planning Commission on the new Science of Human Materials Engineering. But he was not surprised, taking it as his due, no, as recognition of the science he had been the first to develop in the world. At the meeting, he was introduced generously by the personal secretary to the Prime Minister as a professor, a holder of two doctorates from London, one in social sciences and one in engineering, the recognized leader of civil society in southern India, and the inventor of the new science of human materials engineering. Sharmaji, unfazed by the presence of prominent ministers especially requested to attend the meeting, launched into a practiced presentation, with Rajni's graphics, and his own funny anecdotes, interspersed with moving personal accounts of poverty. Spontaneous clapping resounded round the room when he finished. The Minister for Human Resources Development said firmly that at least the Central Universities should immediately institute departments in the new science. Secretary, Communications and Broadcasting, requested Sharmaji to stay an extra day to attend electronic and print-media press conferences. The spokesman from External Affairs said thoughtfully this could have the laugh on the Americans. The Minister of State for Finance hoped this scientific leap forward would go down well at the next G-8 meeting. The Minister for Human Resources Development was impatient with all this talk, and snatched back the initiative since after all this was part of his turf. Pointing an accusing finger at Sharmaji, he said he would ask him point-blank if he would be prepared to chair a high-level committee of scientists and work out the broad research parameters of this science, so that proper staffing could take place from conjoint disciplines. Sharmaji answer was first to be lost in thought; and then to come to a decision. His first responsibility was to the poor, he said with equal firmness, whose first servant he was. Everyone in the room said they respected that. However, he said, the development of this new science was also *a national responsibility* which weighed on his conscience. Quite so, said the spokesman from External Affairs. Sharmaji would accept the task in the National Interest. He could maybe spare time for three, or at most four, visits to Delhi a month, not more. He traveled badly, so to save working time, preferred business class air travel. An office, next to the Secretary's in Sastri Bhavan, plus full complement of staff, and staff car, and a suite in the India International Centre was all he required he expedite matters. He would accept no emoluments, since this was in the

National Interest, but he hoped concerned government departments would be instructed to work closely with his Society in future, in the 'larger interest.' Perhaps, through his Society they would get, not a bigger bang for their buck, but more satisfaction for having done a job well. When he had left the room, many in the room said with feeling that if there were more people like him, India would achieve the high spiritual goals that had been set by Swami Vivekananda, and Mahatma Gandhi, for the Nation.