

## A FISTFUL OF SOIL

*“And somewhere there are engineers  
Helping others fly faster than sound.  
But, where are the engineers  
Helping those who must live on the ground?”*

- (Young Oxfam Poster)

My parents never went to school. My father - a poor businessman was perpetually indebted. My mother listened to his financial woes and gave him sane advice, to which he paid scant attention. But I greatly benefited from her wisdom. She gave me enormous self-esteem and high self-worth.

My mother came from a highly educated family. In the 50's her eldest brother did engineering from Switzerland. The younger one - a Rockefeller Scholar was the first male gynaecologist in North India. His name adorns all three ceremonial plaques at the Agra Medical College - a distinguished Student, a distinguished Teacher and a distinguished Principal.

Because she understood the value of education my mother sent all of us to the best English Convent in Bareilly (UP). She was determined to give us a good education. When the debts mounted she slowly sold all her jewellery to pay for our school expenses. I did well in school and topped my district in the Intermediate Board Exams. After 12<sup>th</sup> I got into IIT with an AIR of 218. I was 28<sup>th</sup> in the North Zone. Which branch to choose? I had no clue. So I asked all the 27 boys ahead of me as they returned after counselling. All had opted for Electrical. That's how I landed up with the same branch.

Coming from a poor small town, IIT/K opened up a new magical world for me. The swanky infrastructure, astounding facilities, enlightened faculty and elite peer group did sometimes instil a sense of awe and alienation. But there were opportunities to be seized. One day on a long walk my friend Akhilesh Agarwal lectured me on the Indo-China war of 1962 for a full three hours! I was astounded at his scholarship. Before coming to the IIT he had read all the seven books on the Indo-China War! Akhilesh had 'green fingers' and we did a lot of tinkering together – making a compressed air engine, a Wankle engine and repairing aero-modelling engines. For full three years both of us ran the aero-modelling and auto-club at IIT/K.

I had read very little as a child. There weren't any books at home to read. One book I did read was Gorky's "*Mother*" and I wept profusely after reading it.

The best thing about IIT/ Kanpur was the library. It opened from 8 AM to midnight and we could issue 10 books. I read a lot - 6 newspapers every single day! I got addicted to the *Economic & Political Weekly* (EPW) and voraciously lapped up the *Calcutta Diary* by Ashok Mitra. This helped me see my own experiences in a perspective. All 5-years, I

got a merit-cum-means scholarship. So, it was cheaper for my poor parents to send me to IIT, than to keep me at home!

The 1970's were politically very volatile years. Students were out on the streets of Paris challenging authority. Anti-Vietnam, civil rights movements were rattling America. Rachel Carson's book *Silent Spring* ushered in the environment movement. Intellectuals were swearing not to participate in war research. There was revolution in the air. In a stagnant society "it's usually the scum which floats to the top". But a political churning can often unleash a lot of social energy.

I was drawn to political activism right in my first year. My lab instructor V.G. Jadhav - told me that the Director had rusticated Prof. A. P. Shukla - a distinguished physicist from Princeton for his left-leaning activism with the Karamchari Sangh. In protest the students decided to take out a march. I decided to join in. I was perhaps the youngest amongst the protesters. The rest were all MTech and PhD students. There were hardly any BTech's. We marched from one hostel to another. Some protestors carried placards and banners. As a young novice I was the only one shouting, "Comrades come out! Protest!" Some of the PG students got jittery at the word 'comrade' and asked me to shut up. I was too naive to understand the political ramifications of 'comrade'. To me it simply meant a friend. We ended the march by pissing in front of the Director's House. This was perhaps my first explicit political act!

A few intellectuals in IIT/K were sympathetic to the Naxalite movement. They endlessly discussed the ideology of 'class conflict' and 'seizure of state power' over umpteen cups of coffee and Charminars. Such empty talk didn't attract me. They sounded vain. "Why don't they do something about the plight of the mess servants?" I would ask, "They serve us from early morning till late at night. Still their children don't get admission in either the elite Campus School or the Central School." Some of us placed more faith in small positive action than in empty rhetoric. We were doers. So, I joined a group called SAHYOG - which helped teach the children of the mess servants. We went from room-to-room collecting Rs 5/- per month pleading with hostel mates to "help a poor child go to school". Some people were kind and paid. Others slammed the door on our face and threw us out. I taught for a long time in the Opportunity School - a makeshift school for the underprivileged run in a Type II quarter.

In TA-204 we swore not to make a 'silly' project which would gather dust and ultimately mangle into rust. We decided to do something 'socially useful' for the community. So, Akhilesh Agarwal and I made a 'see-saw' for the Opportunity School. We got the kids to do 'Shramdan'. They dug two pits and finally grouted the 'see-saw' in place. Once a week I bunked classes to teach in the Opportunity School. We also held evening tutorials - helping children with difficult concepts or their homework. I spent the last 3-years in Hall V where I taught at least a dozen children from the Nankari village. They finally cleared their High School Exams.

Around 1970 Dr. Man Mohan Choudhary started the *Le Montage* - a film club. In five years we saw just about every film by Kurosawa, Bergman, Fellini, de Sica and Satyajit

Ray. We saw *Wages of Fear* and *The Bicycle Thief* at least thrice. We saw the world's best cinema and listened to the country's best musicians. All this had a profound effect on our sensibilities! There were extra-mural lectures by luminaries - Dr. Anil Sadgopal, Noble Laureate Gunnar Myrdal and Hindi writer Bhishma Sahni. A good institute does something to you without you knowing it. It slowly creeps and seeps under your skin - every pore of it.

My first semester English teacher was the very enlightened Suzie Tharu and *The Little Prince* was our text book! The many social science courses - Philosophy, Political Science, and Economics challenged us to view issues from different angles - to look beyond the narrow 'technical' viewpoint. IIT/K certainly gave me a holistic perspective.

The political slogan defining the decade was,

“GO TO THE PEOPLE,  
LIVE WITH THEM, LOVE THEM,  
START FROM WHAT THEY KNOW,  
BUILD ON WHAT THEY HAVE.”

In 1972, Prof. D. Balasubramanian invited Dr. Anil Sadgopal to recount his experiences of teaching science to village children in Madhya Pradesh. This lecture stirred me deeply. In 1975 I joined Telco (now Tata Motors) / Pune as a trainee. After two years I decided that, *“I was not born to make trucks”*. So, in 1978, I took one year off to work for the Hoshangabad Science Teaching Programme. As there were no science labs in the villages all science was learnt by rote – by mugging up definitions and formulae. The programme aimed at revitalizing the learning of science through activities - using local, low-cost materials. During the first month I designed the *Matchstick Mecanno* - using bits of cycle-valve tube and matchsticks to make 3-D structures. This hooked me to school science for life.

Laurie Baker was my college day icon; he was the only living architect who had touched the lives of the poor. He used local materials, local designs to build very affordable houses for the poorest fishermen. Baker was an amazing man – all the time joking, laughing, drawing cartoons but simultaneously doing dead serious work. I spent four splendid months working with this great man.

I couldn't last long in Telco. There were too many questions plaguing me. “Why do people who toil the hardest, do the most back breaking work get paid the least?” So, in 1980, I left Telco and joined the Vidushak Karkhana – a commune run by a group of sensitive IITians (Dunu Roy, Sudhindra Seshadri and Sanjeev Ghotge) in the tribal district of Shahdol. Here we lived a Spartan life – cooked and lived collectively, ran a mechanical workshop, and dissected and discussed the whole world. Here the *“personal became political”* and I was able to explore some of my deepest queries.

From 1981- 83, I worked with a trade union of miners in Chattisgarh. To me, terms like ‘contract workers’ and ‘exploitation’ were mere words, bereft of any deep meaning. I

thought of experiencing the life of the marginalized to lend meaning and understand these terms. The three years were tough but deeply enriching. Many times the only meal was rice with salt; and bed was the union office floor. I brought out the union's newspaper "*Mitan*" – and sold it on the mine gates. I also helped the union run a garage for repairing trucks and taught in their school. Through this I gained first hand experience of the deep struggle in the lives of the poor.

In 1984 I shifted back to Pune. Not encumbered by any parental expectations I was free to chart my own course. Since then I have pursued my passions – designed low-cost science toys and written scores of science activity books. Coming from the BIMARU Hindi belt I have been acutely aware of the dearth of good material in Hindi. Over the years I have translated over a hundred books on education, peace, science, mathematics and great children's literature into Hindi. I have also presented over 120 films for the NCERT which have been repeatedly beamed on Doordarshan. All my books and science toys can be freely downloaded from my website <http://arvindguptatoys.com>

I have been privileged to conduct workshops in over 3000 schools across the country – many of them municipal and poor schools. After every workshop I see smiles on the faces of the children. There is gleam in their eyes. These have been my most fulfilling moments.

The educational terrain in our country is very harsh – almost barren. Even a good seed will wilt away in the absence of any soil. There is very little soil to nurture our young minds. We have a small historic role. Whatever be our circumstances, we have a humble task - to create a fistful of soil. Therein lies hope.

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