Resisting Technology

Regaining a Personal Ecology

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While photographing migrant labour in the interiors of South Gujarat, my time was spent with those who toiled at the grassroots of the economy, labouring ceaselessly, unheard, unseen. "How has the lives of these citizens of modern India changed over the past half century?" I asked myself. My training as an engineer, obviously, had not provided me with an answer, or more importantly, confronted me with the question enough. As I shot a portrait of a tribal khaki-clad worker who had been retrenched from a large and highly mechanized textile mill, outside his thatched roof hut, I could not but help wonder how his relationship with the 'machine' had changed his life. He had worked for thirty years on an automated assembly line which was capable of churning out miles of yarn in a matter of minutes. It seemed that the technological revolution, or the information age, had discarded him back to his sparse existence, uncaringly passed him by. Meanwhile my tool for our encounter – a sophisticated microprocessor controlled camera, product of a highly 'advanced' system – and his contrasting 'basic' existence made me very uncomfortable. It was obvious that the person I was facing had not improved his possibility in the modern world. Clearly his encounter with technology and its promise had not changed his condition.

A short while later, I had to participate in a discussion about the details of a high-tech 'waste machine' with a former teacher and professor of technology. The discussion revolved around its potential to ensure waste sustainability and delved into the intricacies of its workings and the high technical standards it conformed to. "But how does this solve the problem of waste minimisation or of aiding community based initiatives for waste?" I asked. The discussion broke down. My professor immediately drew a wall around himself; he was "just an engineer", not a sociologist. Also I had seen the best of such machines regularly break down in human settings. I asked if it was the right solution at all, maybe it was inoperable in the context? Had the machine not presupposed the problem in an arrogant manner? Like wearing a suit on a playfield: wrong problem, wrong solution! I was shrugged off. This was somebody else's job. In a moment the experience of a highly trained technical mind and mine, that of a decade of addressing the question from a community perspective, seemed to have no common ground. For him, the 'machine' stood alone. To me it was a mere component of a larger human problem. We were on different terrains.

The discovery of my own self beyond my identity as an engineer has been a rediscovery of a personal ecology. The subversion has not been merely of a particular technology, but of a way of examining my own relationship with the world. My 'emergence' has returned me back to photography and turned me into an environmentalist. I have been left

resisting technology. Though not unaware of its potential to serve humankind, and to create new social possibilities of new democratic structures in the digital age, I am skeptical of its intentions.

A student of engineering leads a very nerdy life. Everything is very precise and definite. From the killing 8:00 am to 5:00 pm schedule that does not end with sundown but continues to midnight assignments and tutorial presentations, it is a difficult path except for those who are really interested. Technology did fascinate me. The clear reasoning, the logic of circuits and equations, the flow of experiments and the infallible outputs, all challenged the mind to think clearly and in steady tracks. I suppose these tracks grew deep in the five years of such thinking, became etched in my mind, and became a challenge to overwrite in the years to come. Everything was quantified in numbers, formulas, and in the exceptional case that one encountered an enlightened teacher, one could put all this in a framework of understanding and actually relate it to real life. How the Schodinger wave equation or the Uncertainly Principle brings forth a way of looking at the world would be an interesting change from just mechanically solving triple integrals and complex Fourier transforms.

In some senses there was a constant discomfort throughout this intensive academic period. The divide was between 'real' life and the challenge of having to do something well as an end in itself. Of course there were very real linkages, but these were always somewhere below the surface. I suppose the attempt was to making analyses of real world problems second nature to the trained mind, and then to proceed to engineer solutions. However more often than not, it did not succeed. Real life was out there; even if the problem posed in the laboratory could be applied. For example, how do water-flows in a channel connect with what happens when rivers are dammed? Not that laboratory experiments did not offer clues to real life problems, just that there was very little encouragement or effort to do so. Maybe this divide emerged from the teachers themselves, many of whom had pursued academic careers without actually related their learning to on-the-ground situations. Whatever the reasons, it was learning in a box.

The social sciences were introduced into engineering schools a few years before I went to one. The purpose was to make engineers less narrowly focussed, and to make them 'integrate' with human society. The fact that this was felt necessary already demonstrated the divergence that had crept in. Unlike pure science research, technology needed to be applied. Had it now stopped asking the right questions? Did it ever question itself?

My relationship with technology in enginnering college was non-social, non-political. Technology exisited, and its processes and possibilities needed to be understood in a logical framework. Nowhere were the questions "what is technology, who does it belong to, how does it decide to do what it does, who benefits, who loses out?", queries critical to my current existence and engagements. From the now archaic 8085 microprocessor, on which I carried out my first college project, to the awesome Pentium IV, there has been an incredible journey of the human mind. Technology was taught as 'neutral'. It took me many years to discover that it is not. Technology was not set up to be democratic. And it was not designed for the greater common good, but for a greater common market.

Engineers think technology. It is their world and they hang on to it fiercely to the point of excluding everyone else. The language of technology needs translation for it to make

sense to anyone outside. Though meant to provide answers to human problems, they create dominances and acquire the arrogance of being able to guide human destiny. Is information technology an outcome of a need to be more sociable, or do we have to change to accommodate the existence of a technology? It is akin to the advertising world: do products satisfy needs or create them?

Over the past decade, as an environmentalist and an engineer, I have found it possible to be part of what are technical discussions revolving around environmental 'management'. There is a firmly held view amongst many that environmental change is about the sciences alone and less about human behaviour and human inequities. Hence an inordinate amount of time is spent on making emission standards, quality indices and modelling. Almost no time is devoted to dealing with questions of governance, decision-making processes and how people behave. Environmental committees are stuffed with 'experts' from technology institutions. Like everything else this has roots in how other countries have dealt with the problem, and are in fact still dealing with it. Everything has a technofix; it is just a matter of making the right machine. But technology can be powerful and the forces around it fearsome. Keeping the focus on human needs can be difficult, and in that sense technology is dangerous.

Technology isolates. I have encountered displaced people who do not understand it and cannot participate in it. New industries and big dams located in 'backward' areas have destroyed local livelihoods. The technology drive production process needs 'training' and 'education', but has no use for the knowledge that people have. Skilled farmers, potters, blacksmiths, mud workers are turned into head loaders, trench diggers and 'coolies', while engineers and technicians become masters and 'experts'. The products of technology too do not filter down to those who are no longer valued by it. Knowledge is no longer local, it is centrally controlled and distributed to the more fortunate who can access it. Those who have it are at a premium and can command a better market price, higher salaries and partake in the promise of technology; our institutions ensure this.



The isolation is not of 'backward' tribal people alone. Urban centres are probably the greatest technological creations of modern times. A city dweller has no connection with the world that supports him or her. Food, water, energy, building materials are all available off the shelf. No matter how many people are displaced from dams, or how land is tilled, or vegetables grown, or the lives which create bricks, stone and marble affected, city folk do not question their sustenance. The technology of water pipes, transmission lines, sewage conduits, food packaging, cold storage and super malls is the interface. It is an unreal world, where telecommunications and television complete the breakdown of social and ecological connectivity.

The isolation of the mind itself is probably more dangerous. My engagement with photography came from relating to and interpreting the world through the eye. Photography was a means to understand and express what I 'saw', and I felt alive with a camera in my hand. In my late teens it became a preoccupation with the technology of cameras. Each new button became a voyeuristic journey. Coincidentally or otherwise, this was the same time that I was in engineering school. I was becoming the tool. The camera dictated what I saw rather then being incidental to it. The subsequent years saw me work down my equipment to its basics, almost in an anti-technology model, to protect my 'seeing'.

Machines do not stand alone. They are the tip of the iceberg of a massive infrastructure of production, finance, corporations and markets. Together they pre-empt the possibilities of a sustainable ecology. Once physically created, a 'machine' makes it difficult for other approaches or possibilities to exist. What translates into a physical product is not a matter of addressing a human problem alone, but the 'choice' through which a product becomes 'real'. Why is it, for example, more difficult to promote a compost pit for a community than to sell an expensive incinerator to a municipality? An earthen dam is doubted while an engineered concrete structure is not. What chance does small-scale water harvesting have, faced with the gigantic structure of a big dam? The monoliths of technologies, be they incinerators or big dams, are morphed from amorphous entities of power, capital and their control.

It is not by chance that developing countries still use DDT for controlling malaria, which kills thousands each day in Africa, Asia and Latin America. Third World diseases do not provide lucrative markets for First World research investments by corporations and the universities they fund. Ten corporations worldwide control over 75% of pesticide sales. The reversal of climate exchange is more dependant on the entrenched interests of the energy lobby than on possibilities of alternative sources of cleaner energy. Biotechnology is marketed to provide food to the poor of the world, but is controlled by a handful of corporate giants controlling over 30% of global markets. The biggest hindrance to changing the manner in which chemical safety is ensured in the world is the chemical industry, and not alternate technological possibilities. Powerful nuclear boards set up by nations in search of global dominance have legitimised nuclear energy. AIDS drugs are prohibitively expensive for those who need them most, the world's poor. The largest resistance to making the globe a cleaner place is from existing investments in technology and related infrastructures.

The production and use of technology resides in the control of it, and possibly in its very nature. Gandhi, very importantly, argued that the logic of modern technology, like that of modern science, does not integrate the moral question. Are the values on which they are

based fundamentally flawed and inherently destructive and polluting? The medicalisation of childbirth leads to machines like the Ultrasound 'serving' to abort female foetuses. Gandhi's *charkha* (spinning wheel) was a means to bring control back to the individual, of realising life's interconnectivities and of being self-sufficient. Technology without a moral dimension is rudderless, a monster let loose, cloning itself and now life as well.

Technology needs to be redefined, democratised and integrated. Corporations which control technology and its development need to be made accountable. People need to know and endorse the manner in which their lives will change. Technology has to be proven safe before it enters the public domain. The control must reverse itself. Engineering schools do not teach this. They are increasingly funded by corporations who see their future in them. The control over technology seems to be complete, from training minds to using them for social control.

Resistance must come from inside. Nothing that I was taught in my engineering school told me about resisting technology. It was a given good, the way ahead, an entry into modernity and the future. The precision of engineering should be used to question and to confront, and redefine 'knowledge' itself. Not only the environment but also all our ecologies are at stake. It is for this reason I do not help produce technology anymore. Why I am not an engineer.

The digital age has promised a new chimera. E-mail, cheaper production of information and its dissemination make high-tech commonplace, democratic and hence extremely powerful. Its potential power can be gauged by the attempts of the State to control it through new laws and rules. Yet, what is good can also be used for greater social control. What can democratise can also terrorise. Questions abound. Located in a technocentric world it is difficult to argue against its paradigm. Maybe going ahead is a means of exiting its seemingly seamless topography. However, for me the answers to even this hope lie in regaining personal ecologies. It could be a mistake to look towards technology to help in evolving these, which have to be determined by us, outside technology and not through it or centred around it.

Technology can be fascinating. Maybe it can still deliver its promise of changing the possibilities of the world, in this digital age. Why then do I resist it? To me its seduction is dangerous. It has the potential to take my mind over, and make me lose my basic interface with my surroundings. It threatens to overtake my person and the interface between the private and the public. A mediator is useful, but not if it can become my master. I do not want to become a commodity. I wish to stay free.