

## THE GALLOPING TECHNOLOGY AND THE LOGGARD SOCIETY

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Though the development and advance of science and technology began with the emergence of *Homo sapiens*, tens of thousands of years ago, they began to take giant leaps forward from 1543 onwards when the epoch-making classic of Copernicus regarding the heliocentric system was published at his deathbed. Thus began the great process in history known as the First Scientific Revolution. Copernicus was followed by Kepler, Galileo, Brahe and Newton which completed the first steps of the first revolution. By 19<sup>th</sup> century the progress of science and technology was so breath taking that Frederick Engels was inspired in his *Dialectics of Nature* (1875-1882) to write:

*The revolutionary act by which natural science declared its independence and, as it were, repeated Luther's burning of the Papal Bull was the publication of the immortal work by which Copernicus, though timidly and, so to speak, only from his death-bed, threw down the gauntlet to ecclesiastical authority in the affairs of nature. The emancipation of natural science from theology dates from this, although the fighting out of particular mutual claims has dragged on down to our day and in many minds is still far from completion. Thenceforward, however, the development of the sciences proceeded with giant strides, and it might be said, gained in force in proportion to the square of the distance (in time) from its point of departure.*

Engels passed away five years before the dawn of the 20<sup>th</sup> century – which witnessed Planck's Quantum Theory, Einstein's Theory of Relativity and during the Second World War, the explosion of the atom bomb and towards the close of the century genetic engineering, cloning, computer and the beginning of the 21<sup>st</sup> century's most outstanding technology the "NANO". I wonder what Engels would have written of these most unprecedented series of technological advances, which eludes the comprehension of lesser people like ourselves. The Nano technology based on Richard Feynman's insights of the possibility of manipulating the atoms and subatomic particles and developed by the outstanding MIT scientist Eric Drexler (See his *Engines of Creation*, 1986) is promising to be an earth-shaking event opening up the possibility of human playing the God's game of "Creation". Even the most wonderful and variegated games of computer will be thrown to the limbo in the 21<sup>st</sup> century by the full-blown techniques of Nano, the technology of the smallest of the smallest.

The advocates and promoters of the technologies speak in superlatives of the possibility of such technologies which opens before the human kind. They speak of the possibilities of the unending vistas

which will solve the intractable problems of nutrition, energy, materials, longevity space travel, healing. By entering into the deepest recesses of matter Nano technology can create any material lighter, cheaper and in abundance. By entering deep into the elements of organic cells any disease could be healed whether cancer, AIDS or what not.

When we indulge in such hypes which are not totally baseless, we tend to forget whether the human society is ripe enough to make use of the entire potential opened by these gadgets and inventions. Whenever science and technology made such giant leaps in history, similar claims were made and promises were proffered. But what was the outcome of all these? In 19<sup>th</sup> century the advances in energy, steam, electricity, oil etc where the engines of capitalist advance and exploitation – which finally lead to the Western dominance of the entire world. The final result of western dominance was not the rising prosperity and expanding freedom of the human race, but the pauperisation of the once prosperous lands of Asia and the denial of elementary human rights and restriction of freedom. Even the most wonderful discovery of the internal structure of atom and the fission of atom which was once considered an impossibility, lead only to the horrendous massacre in Hiroshima and Nagasaki on 6<sup>th</sup> & 9<sup>th</sup> of August 1945. Now the atom bombs and even more destructive Hydrogen bombs are used by the US to threaten the world and impose its domination over weaker and helpless nations. The computer and all its potentials are used to rain death and destruction in Iraq, Palestine and Afghanistan. All these shows that if the moral and political system of the world are not reformed in tune with the principles of equity, equality and freedom, the advance in science and technology can only help to increase their misery and oppression and even in those countries like US, Germany and Japan who have reached the apex of scientific and technological progress. They are not able even to wipe out unemployment and under nutrition in their countries, if you have to believe the statistics provided by the Organisation for Economic Co-operation and Development (OECD) which comprises 38 most industrialised countries. We often hear sarcastic comments on the opposition voiced by the Trade Unions to unplanned and unbridled introduction of computerisation. The experience of not only India but also of the most advanced computerised societies proves that the opposition of Trade Unions were extremely valid.

This does not means that we must oppose introduction of technology as once did by Luddites and other machine-breakers of 18<sup>th</sup> and early 19<sup>th</sup> centuries. But we must not develop a techno-mania and run after high-tech innovations anywhere and everywhere without considering the social cost. It is not a question of whether technology is good or bad, but who owns the technology and operates it and for whose sake. Therefore the central problem of the application of high technology in the 21<sup>st</sup> century is the problem of the social revolution. Unless social progress keeps in step with the technology, the technology can be a curse, rather than a blessing.