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HOMAGE TO THE MAHATMA

"The Light which led us to freedom, though not to unity, still burns and will burn on till it conquers," prophesied Sri Aurobindo in his tribute to Mahatma Gandhi. Hailing it as no ordinary light Jawharlal Nehru said that "the light will illumine this country for many more years, and a thousand years later that light will still be seen in this country and the world will see it and will give solace to innumerable hearts." That light represented eternal truths, showing us the right path, according to Nehru. Nothing better has ever been lived or taught since the world began, wrote Radhakrishnan. To Rabindranath Tagore it was "ineffable, like music, like beauty".

When homage is paid to the memory of the Mahatma on October 2 every year those who were fortunate to bask in the glory of that Light have now a duty to tell the younger generation about the significance of that Light. Gandhiji who led the greatest mass movement and the most peaceful revolution in human history was killed by his own people for whose redemption he lived. Einstein wrote that future generations would find it difficult to believe that such a man in flesh and blood walked on this planet. Four decades after he left us many, as Einstein said, would rub their eyes in disbelief when told about the mesmerizing hold of Gandhiji on the masses during the freedom struggle. As many, if not more, would doubt the relevance of his message in the 21st century.

The answer to the questions cynics and skeptics raise is contained in a simple explanation Gandhiji himself gave. Truth and non-violence are as old as the hills, he said. "No literature or propaganda is needed about it. Those who believe in the simple truths I have laid down can propagate them only by living them," he said. There is no dharma higher than Truth and no duty higher than Ahimsa. He rejected the suggestion that he propounded a new theory or philosophy. There was no such thing as Gandhism, he asserted.

He was a practical idealist who, as Shriman Narayan

put it, had no use of any ideas if they could not be implemented and being acted upon in life. He was in a hurry to liberate his people not only from political bondage but also from social injustice and economic exploitation. "I entertain no fads in this regard," he declared and clarified that even atomic energy could be used for the benefit of the people. Human labour and dignity should be respected. Unemployment should give way to full and rewarding employment. True economics, he explained, stands for social justice. It promotes the good and equality of all including the weakest.

Every minute of his life was spent for the welfare of the people. His dream was to wipe out every tear from every eye. His dream was communal harmony based on equal respect for all faiths. He talked of that great dream when he launched his movement around the twenties of the last century. Two decades later he again spoke about that dream and poignantly stated that "If that dream could be realized even now when I an old man on the verge of death, my heart would dance. Children would then frolic in joy." Fifteen days later he fell to the assassin's bullet with God's name on his lips. As Radhakrishnan wrote "We have killed his body but the spirit in him which is light from above will penetrate far into space and time and inspire countless generations for nobler living."

When President APJ Abdul Kalam exhorts school children to translate their dreams into vision and vision into reality, he is reminding us all of the Mahatma's dream. The best homage we can pay to the Mahatma is to promote those ideals that liberated us politically to be taught in every school and college. The custodians of the future need to be educated about the legacy they have inherited and its imperishable value. Not in schools and colleges only but in every home an effort should be made to know about it. Gandhiji himself said that he learnt his first lessons in civic responsibility from his uneducated mother.

-The Editor

"Eschew politics of power; not politics of service." -- GANDHIJI

WOMEN AND ELECTRONIC MEDIA

Shri C.S. RAO I.A.S.,
Chairman, Insurance Regulatory &
Development Authority of India

Friends,

I deem it a great privilege to participate in a function organized by the Centre for Policy Studies for release of the study conducted by the Centre on the Impact of Electronic Media on Women in Visakhapatnam. This is a public function I am attending in Vizag after nearly a quarter of a century. The city has changed in the last twenty five years. The change is visible in all walks of life. The industrial activity has increased with a large number of port based industries dotting the industrial landscape. Trade and commerce has increased. The economy is thriving and one could feel its impact in all corners of the city.

The increased economic activity has made an impact on the educational and cultural scene of the city. There is a revival of academic activity with a large number of educational institutions competing with each other to excel in academic matters. The cultural scene has also changed with increased cultural activities. In India culture and spiritual activities go together and the city seems to be hosting an impressive array of religious conferences. There are very few cities which can boast of the alround development that we witness in Visakhapatnam.

The Centre deserves to be complimented for undertaking studies to gauge the developments taking place in an around Visakhapatnam and assess their impact on the population residing in the city. The present study on impact of electronic media on Women is most appropriate as both women and media play a major role in the shaping of the society. Women constitute nearly 50% of the population and their levels of literacy, economic status, social awareness and attitudes have a bearing on the social and economic wellbeing of the polity, just as the social and economic indicators of the most populous States of U.P., Bihar, M.P. and Rajasthan have an impact on the social and economic wellbeing of the country as a whole. The electronic media which has invaded the drawing rooms of almost all the households has a profound impact on the viewers. What they imbibe from the media will also have an impact on the developments taking place around them. It is, therefore, not surprising that a study on the impact of the electronic media on women becomes relevant to determine how the interplay of media and women impacts the civil society.

The studies conducted by many organizations including the present study by the Centre have already established that the fruits of development have only marginally impacted women. This is surprising given the fact that a thriving women's movement existed prior to independence. The freedom movement brought within its fold women from all walks of

life and their courage, sacrifice and dedication for achieving Indian independence is quite impressive. What is surprising is that women seem to have withdrawn into the comfort of their homes once independence was achieved. Their belief that political independence would gradually translate into economic independence seems to have been misplaced. As brought out by the study, while women account for bulk of the workforce, their share of the income is abysmally low. What is obviously called for is another struggle for economic freedom and in this struggle the media has to assume a major role.

Is the media geared to meeting this challenge? The survey confirms the general feeling that the manner in which the media is portraying women does not indicate *any* major shift from the traditional role assigned to women. They are mostly portrayed as victims without any hint as to how they can overcome the handicaps. The serials which, often command a large viewership reflect the mainstream cinema.

There are, however, news channels which take up women-centric themes but they last only so long as their news value persists. There is no sustained effort to do an investigative story and take an incident and follow it through its logical conclusion. There is no pressure from the viewers canvassing their preference for portrayal of women in the right perspective. There are, however, some exceptions where some stories have inspired women to reach for higher goals. They are the exception rather than the rule. We also have a large number of women who have successful careers as anchors, directors, news readers and news editors. They are, in a way, role models for the younger women to emulate.

The Indian women, after 50 years of independence, are slowly asserting their position and are staking claim for treatment as equal partners with their men colleagues. The electronic media itself is full of highly qualified women who are making a mark for themselves. The media is also refining and maturing over the years. The entry of women into the media is bound to influence the way media portrays them. This is a good augury.

The present study is an excellent effort at capturing the impact of media on women. It acts as an appropriate benchmark on which further studies can be based in the years to come. Smt. P.V.L. Ramana and Mrs. T.V.S. Lakshmi deserve appreciation for the manner in which the study has been conducted and the indepth analysis of the data captured from a cross section of women. I do hope that the Centre would continue its noble effort at mapping the growth of Visakhapatnam on its progress towards becoming a metropolis and how this growth impacts various sections of the population.

(Excerpts of address at CPS, on May 10, 2005
after releasing the book, "Impact of Electronic Media on
Women Visakhapatnam - A Case Study")

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CENTRE FOR POLICY STUDIES

October 2, 1995 - October 2, 2005

Decennial Celebration Function



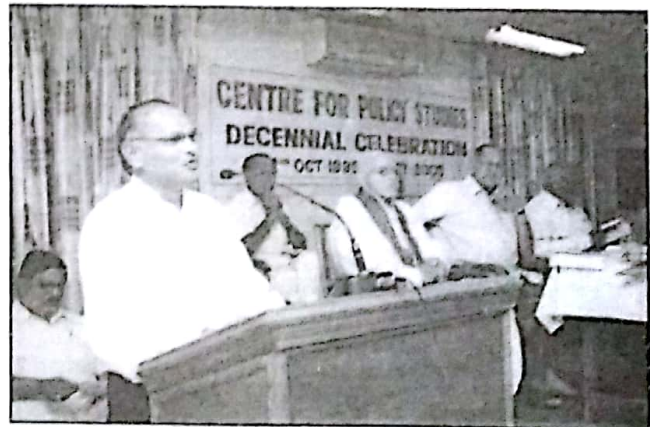
Shri T.R. Prasad, I.A.S., former Cabinet Secretary Government of India releasing the *Decennial Volume*



Shri D.V. Subba Rao, former Chairman Bar Council of India releasing *"Footprints of Divinity - A Gandhi Reader"*



Shri Praveen Prakash, I.A.S., District Collector releasing the book *"Reflections on Religion and Philosophy"*



Shri T.R. Prasad former Cabinet Secretary addressing the gathering.

Dr B. Swami, Chairman Centre for Policy Studies and President Gayatri Vidya Parishad presided. Shri A. Sankar Rao founder of Centre for Policy Studies and Shri Challa Sivasankaram, author of *"Reflections on Religion and Philosophy"* were felicitated on the occasion. The function was held on Sunday October 2, 2005 at the Visakhapatnam Public Library Conference Hall.

SECONDARY EDUCATION IGNORED : EXPERT

The main challenge in the field of education is to strengthen the secondary level and develop the learning resources at the higher level, according to former Union Human Resources Development Secretary RV. Vaidhyanatha Ayyar. "While primary education is getting due attention from both the Government and the NGOs and higher education is receiving support from the State Government, University Grants Commission and corporate houses, it is only the secondary level which seems to be in a state of neglect, with a high dropout rate," he said here on Monday.

Dr Ayyar was addressing the Centre for Policy Studies on the theme 'Human Resources and Development.' Centre director A. Prasanna Kumar presided. He felt that unless the middle level was taken care of with appropriate remedial measures, its impact might be felt at the higher level too.

China's rapid strides

Though India had an early start in higher education unlike China, thanks to the vision of leaders like Jawaharlal Nehru, he noted that China was rapidly and aggressively expanding its educational base overtaking India. "Some 11 million Chinese youth are studying abroad and they may soon emerge as a major force in the advanced fields of computer technology and soft skills," he, pointed out and advised those in charge of higher education to focus on developing sound policies and structures of governance 'to ensure quality and a competitive edge.

Tracing the evolution of the HRD concept in the 1980s, he said that while Rajiv Gandhi provided leadership, it was P.V. Narasimha Rao as HRD Minister who gave it a meaningful direction and concrete identity.

NJR lauded

Dr. Ayyar had a word of praise for former Chief Minister N. Janardhana Reddy who had done a lot of work in giving a direction to the HRD concept and said: "Interestingly, the last decade (1991-2001) witnessed many positive developments in the field of education, including a 10 per cent jump in literacy.

"If the Nehru-Mahalanobis combine focused on nation building through education, the Narasimha Rao-Manmohan Singh duo wanted education to sharpen India's global competitiveness," he said comparing the achievements of the two combinations.

The HRD expert, who is a visiting faculty at the Indian Institute of Management, Bangalore, ended the lecture on an optimistic note about India's future "with our younger generation doing well in every field of knowledge."

Former Vice-Chancellor of Nagarjuna University B. Swami and some former teachers of Dr. Ayyar, who was a gold medallist of Andhra University, honoured him at the function.

(Courtesy The Hindu, September 7, 2005)

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THE MILLENNIUM ECOSYSTEM ASSESSMENT

- Prof. M.N. Sastri

WATER WITHDRAWAL AND IMPOUNDMENT

Water is the basic requirement for all life. While there are alternate sources for energy (e.g. nuclear, solar, hydro energies for fossil fuels), there is no substitute for water. Ironically, water is perhaps the most abused eco service. Inland water sources and wetlands provide the following eco services: fresh water, food, pollution control, flood regulation, sediment retention and transport, disease regulation, nutrient recycling, wildlife support and recreation.

The total amount of water on the planet is mind boggling 1.4×10^9 cu. km. of this, only a miniscule quantity of 37 million cu. Km. is fresh water. As much as 80 percent of this fresh water occurs in inaccessible polar ice caps and glaciers. The water that sustains life actually comes from 50 cu. km. per day flow in the underground water reservoirs. This supply has been constant over tens of thousands of years. Only the demand has shown a steep increase. The present per capita use of water is 800 cu. m. per year as against 400 cu. m. in 1940. A significant portion of the water in rivers, lakes and underground is being exploited in ways that cause severe strain to this vital eco service.

The amount of water taken from rivers to irrigate fields, to meet the needs of the industry and to supply households has doubled in the last 40 years. The quantity of river water impounded behind about 45,000 large dams has quadrupled in the same period. A large dam has a height of 15 meters or more. A dam 5 to 15 meters high with a storage volume of 3 million cu. m. is also classified as a large dam. India has built 4,291 large dams. These artificial structures the world over now hold more water than the free-flowing rivers. As a result, the flow of some rivers has been substantially reduced. At times, the yellow river in China, the Nile in Africa and the Colorado in the USA do not ever reach the oceans. Rivers now transport much less of carbon-rich sediments that provide food supplies to the estuaries and help vibrant populations of shellfish, fish and birds. According to a recent study the inland reservoirs hold back about 100 billion tones of sediment. Most of this material with a carbon content of 1 to 3 per cent is retained behind the dams and made unavailable to nourish coastal ecosystems containing marine life. The sardine catch at the mouth of the Nile in Egypt plummeted 95 per cent after the Aswan Dam, completed in 1973 began intercepting nutrient-rich sediment destined for the Mediterranean Sea. China began the construction of eight dams in the upper reaches of the Mekong River (The river is called Lancang in China and Mae Nam Khong in Thailand). This activity is already threatening the river's complex ecosystems and adversely affecting the livelihood of millions of people downstream in Myanmar, Thailand, Laos, Cambodia and Vietnam. China is also reported to be toying with plans to divert into the Gobi Desert, the Brahmaputra, the 2,900 km

long river originating in Tibet and passing through Arunachal Pradesh, Assam and Bangladesh. If this takes shape, the lives of millions of people in the Brahmaputra River Valley will be in jeopardy.

Dams and canals have been coming up on the Indus River in India and Pakistan to provide irrigation and hydropower. As a result, the Indus River has dried downstream in the Indus Delta in Sindh Province in Pakistan. The seawater came in and replaced the fresh water causing much damage to the fertile land. The loss of land and water shortages proved devastating to millions of small landowners, tenant farmers and fishing community. The pushing seawater ruined about two million acres of land. The Godavary and Krishna Deltas could go the same way when these river waters are impounded upstream through dam constructions.

The Aral sea is a large inland freshwater mass that lies between Kazakhstan in the north and Karkalpakstan in the south. Since the 1960s, the Aral Sea has been shrinking as the rivers that feed it were diverted by the then USSR for irrigation. The sea is also badly polluted due to industrial activity and fertilizer runoff.

Lake Chad, the largest sheet of freshwater with an average depth of 3.5 and 4.0 feet lies in West Central Africa and borders four countries, Nigeria, Niger, Chad and Cameroon. Once the sixth largest lake in the world supporting a variety of wildlife and fish, it sank since 1960s to about a tenth its former size due to persistent droughts and rising human demand.

The area of the Dal Lake in Srinagar, famous recreation resort, shrank from 75 sq.km in 1200 to about 9.5 sq.km presently and is getting shallower each day.

Kolleru Lake is the largest fresh water lake, wetland zone and pelican sanctuary in India, extending over an area of 260 sq. km. during the monsoon season. About 42 per cent of the lake is now exploited for aquaculture while another 8 per cent is occupied for agriculture. The rest of the lake is either being dried out by reclamation or is infested with weeds.

Of the vast number of wetlands that stretched across the Indo-Gangetic Plain 50 years ago, a favourable habitat for a variety of water birds, many have vanished. Most of them have been converted into agriculture lands and the remaining wetlands are used for intensive fishing, wildlife poaching and other activities.

By using up the supplies of fresh groundwater faster than their recharge (this is called water mining), we are depleting this eco asset to the detriment of our future generations. The Ogallala Aquifer stretching from Texas to South Dakota in USA has an estimated at ten to fifty times faster than its recharge rate, the aquifer is projected to dry up in 620-250 years. Extensive groundwater depletion is also decimating water discharge into springs, streams and wetlands.

High groundwater depletion rates are reported from China, India and Mexico. In India the groundwater levels are going alarmingly low in about 300 districts in 20 states.

In coastal zones where groundwater sources are available, over withdrawal is resulting in the intrusion of seawater, making the groundwater unfit for use.

Extensive pollution of rivers and aquifers from domestic and industrial effluents is also a matter of grave concern. Each year, about 450 cu. km. of wastewater are discharged into rivers, streams and lakes. Fertilizers and pesticides have contaminated groundwater aquifers and lakes. Fertilizers and pesticides have contaminated groundwater aquifers and surface waters. Water over long stretches of rivers in India is found unfit for domestic consumption. Over three-quarters of China's 50,000 km of major rivers are so polluted that they no longer support marine life.

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Visible Inequalities in School Education: Problem Crying for Policy

- Prof. V. BHANOJI RAO
Professor Emeritus, GIFT

Introduction

Visible inequalities refer to those that hit in one's face day in and day out. They are not about inequalities in bank balances (including those in Swiss banks) of Indian citizens. They are about the stark realities relating to inequalities in schooling, health care and housing, which are by far the most important. Of these, one could say that minimal inequalities in infrastructure and academic personnel at the primary and secondary school levels play a foundational role in the pace of overall human development and its spread.

What is the significance of the problem of visible inequalities in education and why should they be addressed via public policy? Why are we not taking a serious view about discussing and debating the issue and addressing them? What sort of policy framework could help in reducing them? Can we hope to be rid of the problem at least after a decade or two from now? These questions are briefly looked at in the rest of this note. A caveat must be added that the issues are rather complex and a short note is too short to expect detail and depth.

Significance Of The Issue

There are many reasons why a nation state must aim to minimize the extent of visible inequalities in schooling.

First, minimal rather than stark inequalities in schooling could be considered a matter of civilized life. It is a matter of civilized life because cohesion, order, security and peace in the society are well nigh impossible if at ages 6 through 18, a large majority of children are condemned to study in less endowed schools, while their brothers and sisters from the rich families go to the schools that train from day one for best in higher education and best in the job market nationally and internationally.

Second, due to inter-linkages to rest of personal achievements, school education (10 to 12 years) provides the basis for individual progress over the full life span (including in

the spiritual realm) and for development to be spread widely.

Third, quality education for all up to 12th grade would imply an exceptionally well informed and participative electorate, the only major pillar of a vibrant democracy, which in turn is the grand finale of our political liberties.

Finally, one could see the light at the end of the tunnel for all the caste based reservations once each and every child is in an identically well endowed school setting. Presently, some disgruntled political pundits, their disciples in high places and a section of social scientists argue for caste based reservations in higher education and jobs but seldom seek quality education for all at KG to 12th Grade. They know well that what is needed is what has been said just now; it is just that they are playing vote bank politics, since those under 18 do not count for votes.

Minimum Visible Inequality: Singapore And Us

The examples of school systems in Singapore and US would help understand the importance they attach to minimal inequality in regard to equal treatment of all children in regard to school education.

An important mechanism Singapore has used to equalize opportunities (not in final outcomes) is the school system. A few decades ago it was easy to spot one, or at the most two, reputed and sought after schools that trained students to achieve the best results at 10th and 12th grades (O and A levels). Today, on the other hand, there are many schools that are equally good, thanks to the equal distribution of physical and human infrastructure across schools: excellent laboratories, libraries and computer centres, and well-qualified, well-paid and socially respected teachers.³ Practically every child who is a Singapore citizen or a permanent resident attends government or government-aided independent schools. There are a good number of private foreign schools, but they are mostly for the foreigners.

The US has gone a bit farther than Singapore. Students in the public (government) schools enjoy, in addition to the requisite physical and academic infrastructure, free transport and free books (returned to the school at the end of the academic year) as well as subsidized/free lunch.

We Do Not Seem To Care

In the colonial days the children of the Maharajahs attended prestigious public schools located in England or at a few selected and scenic spots in India. After independence we have done 'better' and provided for phenomenal growth of private schools for the well off right on Indian soil across its length and breadth. One way the central and state governments could rationalize the inequality is by the standard operating practice of 'first let there be growth and then we take care of inequalities', which is plain cheating and nothing more.

For instance, according to the Mid-Term Appraisal (MTA) of the Tenth Plan recently released by the Planning Commission, an estimated 8.1 million children aged 6-14

were still out of school in 2004. What about quality and equality? Is it that there are fiscal constraints? Against the Tenth Plan provision of Rs 30,000 crore in the Central sector, a little more than Rs 31,600 crore was spent in four years. While inadequate enrolment growth is one side of the story, the dropout rate in the region of 30 per cent or more is the other side. The MTA notes: "The poor quality of education is one of the reasons for high dropout rates. Improving the quality of education is, therefore, a high priority item for SSA."

Why are children not attending school or if they are why are they not completing their schooling, despite the huge funds spent over the years? The ground realities are available in a 2004 report by the National Institute of Educational Planning and Administration - Elementary Education in India.

The report is based on data from over 8.5 lakh schools in 461 districts across 18 States. Of the total, 87 per cent schools are located in the rural areas. The vast majority of the schools are under the management of government agencies: The Department of Education (61.1 per cent), Local Bodies (20.6) and the Tribal Welfare Department (4.4). Schools without a building make up 6.3 per cent of the total. As much as 30 per cent of the schools have no proper permanent buildings.

Those without a classroom make up 12 per cent while those with less than three classrooms add up to two-thirds of the total. Just about 42 per cent of the schools have a playground. Less than 16 per cent have proper sanitation facilities.

Close to 9 per cent of the primary schools have more than 100 students per teacher. Only 36 per cent of the schools have more than three teachers. Less than half the teachers in the country are trained teachers. A little more than half of the regular teachers have only higher secondary or lower qualifications. Government-managed schools have an average of 2.5 teachers per school, while those under private management average 4.9 teachers.

What Needs To Be Done

It is high time India launched a national school-building programme and teacher recruitment programme. Standard designs for school buildings and teacher recruitment procedures need to be in place. Schools of excellent quality with good infrastructure (including dining halls for mid-day meals) would attract students with least goading. It should be mandatory for all primary schools to provide free books to the pupils.

With regard to teaching staff, the national programme should ensure a respectable pay, free housing near the school and no compromise on qualifications.

In regard to educational administration, it is best that all government schools are under the State Education Department, thus leaving agencies such as tribal welfare and local bodies to focus on their core activities.

As soon as the new primary school buildings are in place, attention should be focused on building secondary schools catering to grades 6 to 12, under one roof. Slowly and steadily, the system will pave the way for an India with over a thousand

public and private universities, which will expose students to high caliber research and infrastructure.

In Conclusion

Neither the BJP and its allies, nor the Congress and its allies, seem to care about the slow but steadily heating volcano of immediate practical concern - the horror of (potentially crime-inducing) visible inequalities in our country, growing day by day. The inequalities are pervasive: one sees them prominently in education, housing, sanitation, water and health facilities enjoyed by different sections of the population.

If the UPA Government, with its socialist credentials, is unable or unwilling to deliver excellent schools with qualified teachers, India's children will have a long wait, just as the Republic has waited for four decades for PVN and the present PM to and see the beginnings of unfettering of the economy

In the absence of equity-promoting strategies, notably in education and housing, the economy will not continuously grow at a healthy rate; it is foolish to think that inequality promotes sustained growth; and the sort of visible inequalities we have are the best high yielding seeds to grow internal strife and discord.

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TOWARDS INSPIRED QUALITY INSTRUCTION

Prof. V. Murali Krishna

Retd. Professor of Chemistry, A.U.

The realization that the large potential of Human Resources has to be effectively tapped for production led to the creation of Human Resource Development Ministry by the Government of India and the subsequent follow up activities. India had an early start in higher education and also in establishment of some basic industries. But a synergic view of industry-university seems to be recent or even nascent.

Chemistry is one of the means by which man describes reality. "Science, broadly considered, is incomparably the most successful enterprises human beings have ever engaged upon. Chemistry is a Central Science not only because of its numerous and fundamental connections with other branches of science, but also because of its wide-ranging influence of the way we live" (1). Chemistry is essentially concerned with the structure and composition of the materials. The industry draws this essence for improving the standard of contemporary living. The methods of chemistry as mentioned consist of analytical and synthetic aspects. Because of its numerous connections with other branches of science it is obvious that chemical education should take cognizance of interdisciplinary areas. In point of fact such recognition and realization led to the evolution of disciplines like molecular biology, nanotechnology, materials science etc. Further, a change from pedagogy to performance is imminent. Academic course contents should be application oriented, should develop creative or innovative thinking and should conform to book to lab translation as is the case in studies related to agriculture (lab to land).

It, therefore, indicated that analytical chemistry acquires

significance to cater to the industry's objective of quality process and quality product.

The educational system we inherited is the McCauley's "fit-for-the-job" intended to turn out "a class of persons Indian in blood and colour but English in tastes, opinions, morals and intellect". The socio-economic development coupled with self-governing set up made it to alter to syllabus - examination-degree-job type system. The manpower requirements necessitated an unusual growth in the turn out of undergraduates, graduates and post-graduates to such an extent that the literate force coming out of the institutions or universities are either unemployed or unemployable. Hence, we have to evolve out a system of education whose objectives should be to impart "skills, competence and expertise".

The more we realize the value of higher education the more we are faced with the questions about the cost effectiveness, accountability, relevance. It, therefore, becomes all the more pertinent to reorient, revise and modify our approach to syllabus, curriculum, and classroom techniques such that the desired objectives are realized. At the same time one has to be aware that innovative ideas do not spring up like lightning but result from methodical hard work.

In order to promote such methodical hard work there should be continuous up-gradation in information at all levels of educational ladder. The thinking on the part of the teachers that a change towards up gradation of syllabus not compatible to student understanding does not hold ground. The student's level of general information consistent with change in times is higher due to the impact of print, electronic media and of late computers. Further, the reluctance on the part of the teacher may be a contributing factor for apathy to up gradation, modernization and contemporary knowledge acquisition. The student disinterestedness is a consequent corollary. Such an attitude in the younger generation may contribute to aversion to aspirations, poor perseverance and reluctance to readiness. Yet another aspect is the unhealthy race to achieve early and quick results and fast recognition. But younger generations are not trained to recognize that the greatest thing in life lies in the desire to achieve and not achievement. It is only then one always keep himself active to acquire knowledge which is a precursor to intellect or wisdom.

The aim of education, hence, should be towards methodical hard work and thereby becoming wiser. Skills, competence and expertise are a material flow from such wisdom. Mere acquisition of information and getting knowledge out of it by itself does not correspond to good and meaningful education unless one knows how best and judiciously they can be put to use. With changes in understanding of basic principles of chemical systems the need for increased sensitivity, selectivity and specificity emerged. In addition the present day cost effectiveness in production is related to readability, repeatability and reliability of analytical operations. These put the learner or student or knowledge acquirer- to corroborate to skills, competence and experience. If one gets restricted to skills and competence he will simply be a chemist analyst or simply analyst and if expertise also is added he becomes an analytical

chemist. It becomes obvious that there is a change in the analytical chemistry content from that of a mere study of the nature and composition of materials to the present status of performance capability of materials with the result that the simple chemist analyst has to be distinguished from the competent analytical chemist.

One of the basic tenets of research should be to identify the task, develop motivation to tackling the task and achieve the set forth target. The current needs and further development of the society can be met. by training analytical chemists to take up challenging tasks in research. This apart, basic and applied research in analytical chemistry are equally important components and require a high quality of knowledge and mind. The edifice of scientific knowledge is built around data base, array of methodologies, and array of concepts, while technology is concerned with the process of production and delivery of goods and services. Both science and technology should be synergic to production and economic growth. Rapid industrialization either by borrowed technology or developed technology places a great stress on appropriate higher quality manpower requirement. This, therefore, leads to an awareness of the goals to be achieved which trickles down to the education system. Hence, the curriculum must have to be made more live continuously without getting stale and obsolete. Younger generation must have to be provided with the necessary framework to improve on free thinking, challenge preparedness and confidence building measures, so that they can develop the expertise required.

Based on the imperatives outlined above a three tier system of analytical chemistry curriculum is suggested.

Stage 1: Post Matric Certificate Course designed to train the manpower for chemical laboratory work, up-keep and awareness.

This stage is just similar to the industrial training institute giving training to artisans, skilled workers etc.

Stage 2: Post First Degree Level and Post Stage 1 Level.

Course content involves stage 1 level plus those dealing with fundamentals of analytical chemistry subject and analytical operations.

This stage is intended to train laboratory analytical assistants acquiring skills and competence.

This stage is just similar to polytechnic stage.

After each stage provision should be made for self-improvement to the next stage during off-time while in service. Simply being in service for years should not form the basis to proceed to the next stage. Such a measure will be counter-productive.

Stage 3: Full-fledged Post Graduate Degree.

Course contents of stage 1 and stage 2 or equivalent plus additional full-coverage to correspond to skills, competence and expertise.

Research: Research in analytical chemistry should be directed towards:

Methodology Management

Instrumentation Management

And Data Management.

What has been enumerated should be taken as purely suggestive and may be considered for still better types but should have a progressive outlook.

* * *

IMMANUEL KANT (1724-1804 C.E.) - III

- Sri C. Sivasankaram

Kant the individual lived such a way that it proved to the hilt the saying of Sri Ramakrishna, "live in the world but never let the world enter you". This form and pattern of life belongs to the conqueror of the body which is by all means the miniature world of the wide outside world. If the sublime philosophy of immanence and transcendence of God is allowed to galvanise the soul of man bliss becomes his sole property and its blessedness reflects on all. Man is not to Rue but to rejoice. Bliss is the birthright of man. Buddhist emphasis on world as a place of ceaseless suffering makes the life of man as a shadow of dark devouring sufferance. Bliss can be compared to the laugh of the infant in the lap of its mother. With Buddha, Kant would say that the only thing in the world which possesses an absolute value is the goodwill; the will freely determined by the moral law. Kant, as time courses forward discarded his erstwhile adherence to the Wolfen version of Leibniz's philosophy from which he copiously drank the ambrosia of knowledge of the otherworld until he came under the enchanting influence of Rousseau, a swiss born eighteenth century French philosopher. Rousseau charmed the Indian intelligentsia. I know a Brahmin youth of Andhra origin bearing the savant's name. Both Rousseau and Kant were born poor. Rousseau's famous piece of Rhetoric runs. "Man is born free and everywhere he is in chains, one man thinks himself master of other but remains more a slave than they are".

Kant was reputed as a man of such regular habits that the people used to set their watches by his as he passed their doors. Neither philosophy nor the theistic impulse over-ride him when it was the question of the rights of man. He insists that "the rights of man are holy whatever the cost to the ruling power" Like Mahabharata he is all for all. In his treasure one can get what one is after, philosophy, science, metaphysics, physics, history, epic and theology and education in statecraft. I quote for the readers profit Dr S. Radhakrishnan, "The utterances of the Vedic poets raive, the wondrous suggestiveness of the Upanishads, the marvellous psychological analyses of Buddhists and the stupendous system of Samkara are quite as interesting and instructive from the cultural point of view as the systems of Plato and Aristotle, or Kant and Hegel, if only we study them in a true scientific frame of mind without disrespect for past and contempt for the alien (Indian philosophy vol.1 p.9).

The philosophy of Kant, we may take liberty to term as

the philosophy of heart and psychical feeling. As Sri Satyasai Baba iterates quite often it is the language of heart not that of the mind the sixth premier organ of senses. It is not the philosophy of perception but that of which never wavers that is supraconscious being. The absolute heart goes on spinning, speculating and formulating. Hegel writes, "According to Kant the things we know about are to us appearances only and we can never know their essential nature, which belongs to the other world which we cannot approach".

If we impartially dive deep into the profundities of the philosophy of Kant we arrive at the conclusion that it is but the Kantian version of Samkara's Vedanta and in all ways is akin to the Essence and spiritual magnificence of the Upanishad. Kant is the German synonym of Samkara of India. Samkara of Kaladi and Kant of Ko'nigsberg though lived apart by over two thousand years mingle at the point that God is Sanatana whose presence is everywhere. Both recognize the falsity of the conclusions about knowledge derived from empirical methods. The Upanisad tells that the knower of Brahman as knowledge realized all desires along with Brahman, the intelligent. Kant is one with Aristotle that the seat of the soul is in the heart. "Knowledge, says Agamemnon, comes through sacrifice." East and West are not aliens.

Arthur Schopenhauer (1788-1860) another German philosopher (Indians Cherish his name and his philosophy of will very much) and an admirable contemporary of Kant says, "Kant's greatest contribution to philosophy was the distinction between the Real World and the phenomenal world". Kant says that all objects of experience are phenomena and not noumena (that which is apprehended by thought). Swami Vivekananda says, "that Kant's greatest achievement was the discovery that, "time, space and causation are modes of thought". Vedanta calls it Maya.

Kant extols science as profoundly as philosophy that he says, "science and philosophy are necessary, if we wish to acquaint ourselves with the truth, god, the free will and immortal soul – these are the facts of the real world of the hearts opposed to the fancies of the imaginary world of the mind". He finds "God in the beautiful design of Nature a design based upon the patterns laid up in the heavens. Behind beauty there is always a purpose". The triad Satyam, Sivam and Sundaram are equal expression of truth and God.

Kant's treatise on the sublime and the beautiful runs as follow: "Night is sublime, Day is beautiful. The sea is sublime and the land is beautiful man is sublime, and the woman is beautiful" and so on. He was never married like the great Plato. Emerson regards Plato as synonym of Philosopher. Both lived eighty springs. They lived over two thousand years apart. Buddha and Gurudev Tagore lived eighty autumns. Great men desert their mortal mask the moment they sought exit from the world where they had left behind a lofty legacy.

Philosophy is the science of sciences. It gives the 'open sesame' key to open the gates of science and the scientific discoveries to lead a scientifically attuned life enjoying the fruits of the grand orchard of life. A life well lived is a life attuned.

An around warrior of rights of man Kant felt keenly for the man who never received that to which is duly entitled—dignity, democratic equality and fraternity. He emphatically said, "that war shall not be declared except by a plebiscite of all citizens". He felt to the core of his heart that universal peace can be had only when everyman in every country is respected as an absolute end in himself. Kant was not disillusioned. Till the end of his memorable halt on earth he was creative and optimistic. He had sought for God and he had discovered Man.

Here is the celebrated moral principle of Kant, "So act as to treat humanity whether in their own person or in that of any other, always as an end, never merely as a means." Swami Ranganathananda (1908-2005) commenting on this said, "we shall be creating a social order where man will become the focus and source of all values, and which will breathe the spirit of harmony and universality. "Two things fill me with wonder, says Kant, "the starry heavens above, and the moral law within", The Swami muses, "this is the line of human evolution which transforms the merely civilized man into the cultured and refined citizen". Every nation, every philosophy and every scientific discovery exhibits the stamp of Kant. Kant by his moral laws and philosophy has penetrated like warp and woof into the fabulous fabric of world culture. Civilized men have within them the undying embers of Kant's moral fire. The sparks light the moral path, ignite the minds which are after investigation of the Truth. Man occupies the central place and the echoes of the man that he is the end not the means reverberate everywhere.

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A NOBEL LAUREATE'S ARGUMENT

Amartya Sen's writings on Indian History,
Culture and Identity

THE ARGUMENTATIVE INDIAN—Amartya Sen — Allen Lane an imprint of Penguin Books 2005 pp 409 Rs. 650.00

A book by Amartya Sen, even if it is a collection of essays/lectures already published, evokes keen interest in every part of the world. Understandably reviews of the book have arrived much earlier than the book itself and leading journals and newspapers have prominently discussed the Nobel Laureate's *The Argumentative Indian*. The celebrated economist and thinker has recently given interviews in India's print and electronic media and answered questions on wide-ranging topics covered in the book. The 409 page volume is divided into four parts and 16 chapters containing in all eight new and eight old essays.

Three reasons, according to Amartya Sen, prompted him to select the essays and bring them out in book form—the long history of the argumentative tradition in India, its contemporary relevance and its relative neglect in ongoing cultural discussions. The aim is "to understand contemporary India, including its thriving democracy, in the light of its

argumentative tradition." The author cautions against two pitfalls. First is taking democracy to be a gift of the west and secondly assuming that there is something unique in Indian history that makes India singularly committed to democracy. Truth, writes Sen, is more complex. Heterodoxy is a natural state in "the immensely diverse country with many distinct pursuits, vastly disparate convictions, widely divergent customs and a veritable feast of viewpoints." India has a long and noble argumentative tradition which needs to be understood and appreciated.

The argumentative tradition was not the exclusive preserve of men. Nor did it belong to the privileged or favoured classes. It crossed the barriers of caste and class. Sen highlights the contribution of Buddhists who regarded discussion as a means of progress and how they set up councils to settle disputes. If Ashoka vigorously pursued that path, centuries later Akbar proclaimed the thesis that 'pursuit of reason' rather than 'reliance on tradition' was necessary to address difficult problems of social harmony. The essence of the Indian argumentative tradition is that public reasoning is central to participatory governance. Amartya Sen explains how the long history of heterodoxy has bearing on the development and survival of democracy and emergence of secularism in India. Describing Ashoka and Akbar as 'two of the grandest emperors of India' Sen shows how they stressed tolerance of all religions / sects and religious neutrality of the state was promoted. Secularism can be linked to the acceptance of heterodoxy, writes Sen.

Arguing that a pluralist India was established before British Raj, Sen writes that the press strengthened the dialogic heritage of the subcontinent. In the chapter on Rabindranath Tagore, the author explains how India's first Nobel Laureate was proud of the confluence of three cultures in his family background—Hindu, Mohammedan and British. India's cultural life does bear the mark of the past, but the mark is that of interactive and multi-religious history. Sen writes about the uniqueness of the heterodox Indian tradition characterized by "Nagarjuna's

penetrating philosophical arguments, Harsha's philanthropic leadership, Maitreyi's or Gargi's searching questions, Caravaka's reasoned skepticism, Aryabhatta's astronomical and mathematical departures, Kalidasa's dazzling poetry, Sudraka's subversive drama, Abul Fazl's astounding scholarship, Shah, Jahan's aesthetic vision, Ramanujan's mathematics or Ravi Shankar's and Ali Akbar Khan's music without having to check the religious background of each.... a tradition to be proud of."

Quite rightly does Sen rebut the Huntington thesis about the clash of civilizations and also the exaggerated claim of the West about its contribution to the progress of humankind. Equally lucid is Sen's explanation of globalization which is neither particularly new nor a folly. "It is through global movement of ideas, people, goods and technology that different regions of the world have tended in general to benefit from progress and development occurring in other regions," writes the author. Globalisation, he says, occurred before the millennium thanks to the Chinese, Arabas, Indians and others. India has always been an exporter and importer of ideas, according to him.

The Argumentative Indian takes up the daunting task of explaining the uniqueness of the Indian tradition and the complex cultural mosaic. The path laid down long ago in ancient times was strengthened by such great rulers as Ashoka and Akbar with eternally relevant values like tolerance, mutual respect and healthy public debate. Not only rulers but also poets, philosophers, industrialists, musicians and others have enriched the tradition and culture irrespective of caste, class and gender. The noble plea of Nobel Laureate Amartya Sen that not only India but the entire world must uphold secular and democratic values is a timely and welcome reminder to all to place the well being of humanity above narrow and particular interests. There is no alternative to it.

-A. Prasanna Kumar

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