VALUE EDUCATION TODAY

Explorations in Social Ethics

J T K DANIEL
NIRMAL SELVAMONY

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Edited by
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MADRAS CHRISTIAN COLLEGE
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PREFACE I

Values change but are never extinct. Had they been extinct, the shocks brought by Man's quest for knowledge, which threatened to undermine the supposed security of earlier value systems, as well as those that modern science and technology generated would have led the human race to an untimely and shattering catastrophe. Darwin and Hiroshima represent such shocks. However, other value systems have emerged to reassert the moral force which undergirds the mysterious purpose that somehow holds together the global society. The affirmation of democratic values of justice, equality and equity has shaken every society into the necessity of formulating new value systems. In the process of such formulation, there arises a creative struggle between classicism and romanticism, spirituality and materiality, religion and science, aristocracy and the proletariat and philosophical enquiry and practical existence. From this creative struggle may emerge new value systems which shall meet the present moral requirements of human societies.

In the context of such a global transition, it becomes an obligation of every educated person to exercise his or her mind on social issues and make the right response to facilitate social transformation and development. Issues may differ nationally and locally and so they demand specific inquiry in context. This process of education in global and national change both justifies and proclaims the imparting of value education to students who are directly involved in the building of the future global society through a responsible exercise of thought processes as well as their rights and privileges as citizens. Both the present volume and the earlier one seek to provide help in the imparting of such education.

The content of the book is self-explanatory: it begins with a conceptual backdrop of value education as such—made of evaluations of contemporary predicaments rather than of abstractions per se—which foregrounds current issues in the specific Indian context. Rightly therefore Daniel emphasises such education to be essentially contextual. He points out the need for pedagogy to be dialogical and praxiological. Kanagasabapathy's write up on the need for value education to be holistic is well in place.

Fowler's attempt at a model of character formation by reference to specific strategies and Jeyasekaran's delineation of a specific model affirm universal values in specific contexts. This is reinforced by Everett's

call for the use of the *oikos* language that facilitates "a tight integration of family, work and faith" and points to global values necessary for forestalling things falling apart. The concept of value education itself comes under sharp-focus for helpful clarification in some of the earlier chapters of the book.

The issues dealt with in this book cover a wide range. Development — crucial to the Third World — is found by Kurien to be an unresolved endeavour caught between the horns of the dilemma of the rich becoming richer and the poor poorer through an economic system not wholly based on right values. Population, says Selvaraj, is not a mere "economic malaise", but a problem of economic maladjustment owing to social factors. Problems of development such as these require a reexamination of the foundations of values and Nirmal Selvamony's call to de-develop seeking moorings in tradition is helpful. These and other social issues such as environment, energy, sex, AIDS, politics, technology, science, religion, terrorism, human rights, communalism and advertising offer to the student and the teacher a comprehensive material bank from which may be drawn suggestions and clues for fruitful interaction, that creative pedagogic tool which awakens, shatters and reshapes growing minds for effective and sustained action for social transformation. By themselves these may not change our society overnight, but through these the academia gives to the world a force which, when well-directed, may bring about a fresh wind of reform, revaluation and revision of values which have outlived their day and annihilate others that are detrimental to progress. A pointer in this direction is sought to be given in Nirmal Selvamony's account of an alternative order of society.

On the whole, it seems to me that the present volume is a helpful handbook for teachers and students to use creatively for the benefit of the society of which they are the salt and the leaven.

H. Francis Soundararaj
Principal MCC

PREFACE II

Since World War II the world has been witness to a continuous and steady deterioration of values in moral standards all over the world. Starting in the West, youth has resorted to alcohol and drugs, sexual permissiveness, terrorism and so on. Many, bored with the materialism and rat race of life there, have migrated to the East to become "flower children", hippies and various cult followers. Through mass media and communication systems this malaise has spread to the developing countries too, but has taken other forms of expression.

In India we have seen a 'splurge' of strikes — of both teachers and taught — for higher salaries and lower fees, for no examinations, postponement of examinations or concessionary cheating at examinations, for dismissal of staff or removal of students. There has been hardly any rationale behind this — it is the whim of a moment or the urge of a few self-styled leaders. In several cases it has ended in violence and loss of life. All value judgements have remained mere theoretical propositions. Changes in economic, political and technological spheres do affect value systems; modernisation often leads to newer systems of morality. This is exactly what has happened. Moral education has not been considered an imperative in higher education.

In the *Advanced Learner's Dictionary of Current Usage,* Hornby defines value first as "the quality of being useful or desirable" and then as that which also implies moral standards. All faith-communities have their own stipulated ethical norms and even nonbelievers have a code of conduct. But with the so-called advance of civilization, progress tends to be measured in terms of how much one has — cash assets, land resources or university degrees — rather than in terms of how much one gives or how useful one's potential is.

The essence of the Christian spirit is 'community' — people who care and share, because this is part of their Biblical ethos. The Bhagvad Gita stresses the same:

> As the noblest man believes
> So will all the people do
> And by the example that he sets
> The world will always that pursue.

With this end in view, AIACHE has initiated a Cell for Value Education and Cultural Development to reach out to its member colleges in

a concerted way. The cell will develop a methodology of value education with a view to expose the student to a series of values in totality, to enrich character. While values do exist as ideas in the abstract, the right education can develop attitudes which are specific responses determined by values and also motivate actions — the grand finale — which are the logical consequences of values and attitudes.

In this context, higher education should be concerned with the wholeness of man — immanence of God within, making his life sublime and useful to others in every sphere and every profession. This anthology covers all this and much more.

Marie Correa
General Secretary AIACHE

FOREWORD

A spectre is haunting India today: it is the spectre of Anarchy. Democracy in this country has unleashed a Revolution: it is a Revolution of Expectations. Most men now realise that they are, in some sense, equal to anybody else. Therefore, they want more security, more material goods and if possible, more leisure. Politicians can no longer control their flock. They are no longer in the lead, they are adjusting to the human situation as best as they can. It is no use blaming the politicians for the evils of the day. Those traditionals who do this, asking for Mahatma Gandhi or Netaji to come back are mistaken. The politicians today will continue to make their adjustments because we cannot have the old times back. The old order must adjust to the new situation. This crisis has at times been seen as a loss of values in society.

We assume that these values were once cultivated by society but they are either lost or we are in the process of losing them very quickly. We, also, assume that education, in some way, can help us restore these values. These assumptions are worth examining.

Values which are valid for a stable society are not valid for a society which is in the process of rapid change. Indian society had, for a long time, been exceptionally stable. But the attempt to throw off foreign rule and the introduction of democracy have completely changed the picture. Traditionalists, who believe that the clock can be put back, are mistaken. This cannot be done by the Indian Army.

It may well be argued that some values are perennial and, therefore, they remain true despite the state of society. I would agree with that but I would say that the education we have at present cannot teach these values. As pointed out last time by no less a person than Malcolm S. Adiseshiah in his foreword to the earlier volume, such values can only be taught while young and can only be taught in the family and in society. I shall only add that those who think that values of this kind can be taught well by lecturing at the students are committing a great blunder. We may lecture at them and make our mythological tales compulsory reading, but this will not prevent students from understanding that the teacher himself does not practise what he teaches. Such values can only be learnt from people who live by them.

If formal education cannot teach values (especially those which are perennial) and our family system is such that values of this order cannot be taught and are not being taught, then we are faced with an impossible situation. I, for one, refuse to believe that the situation is as bad as that. The Indian family system still holds good. It may not be the joint family any more but very little is wrong with the Indian family as it exists today. The Indian mother still is willing to make all sacrifices for her child. It is in this that the Indian culture still lives, and there is scope for perennial values.

Instrumental values will have to adjust to the new situation where the joint family is being gradually replaced by the nuclear. We have to think of social security. This ties up with the other urgent issue of society, namely, population control. Elderly parents can no longer rely on their children and their religion. We must create institutions so that such social responsibilities can be taken care of. In other words, we must create the instruments necessary for a changing society. Any attempt to ignore this position is likely to result in serious trouble. We must leave our perennial values to the family we have. But we must create institutions for the instrumental values which we feel are necessary. I repeat, any attempt to put the clock back in the name of religion or tradition is likely to cause disaster.

Santiniketan
6 August 1990

A Das Gupta
Vice-Chancellor Visva-Bharati

INTRODUCTION

Although values are implicitly communicated through all the academic disciplines, they are explicitly discussed only in such courses as moral education, social ethics and other similar ones. Specific values relating to right/wrong, good/bad situations come into focus in the latter courses in a way they do not in the former.

The term value education is favoured, in our pluralistic context, by educationists and academicians, for, it could be distinguished from its close cousin, religious studies. However, religious studies could also promote the values upheld by value education.

Social ethics, a kind of value education, discusses the ethical issues pertaining to the various social institutions. Evidently, this discipline rests upon the infrastructure of sociology and hence presupposes some basic knowedge of sociology. In other words, every student of social ethics is expected to acquaint himself, if he has not yet, first of all, with the basic facts about the society he proposes to examine. However, the stress is on ethics; on the ability to use such criteria as right/wrong, and good/bad. It is hoped that a course in social ethics will train the student in the systematic application of these criteria. Such academic exercise should, however, be preceded by attempts at sensitization to issues and followed by persuasion to participate in social processes and do the needful.

The present volume results from a collective exploration into the various terrains of our society, national and global. When all the trails left behind by the explorers are put together, we get a map of our modern society. This map may not be a very detailed one but, certainly, highlights some of the major 'areas' of our concern.

In this on-going corporate search, everybody who is concerned about India tomorrow or the world tomorrow, must participate in one way or the other. Although the book is mainly meant for the undergraduates, the search is not.

While all the contributors envisage the world or India of tomorrow as the common destination, the approaches they take are varied. In spite of their ideological differences, the reader is likely to find that they are unanimously agreed on the need for commitment to values. Opposed viewpoints on issues, which are quite legitimate in an academic context, should not discourage the reader from clarifying his own vision but provoke him into deeper perception and sustained deliberation of that vision and, most importantly, dedicated action which will translate that vision into 'reality'. However, it may be stated that the views expressed by the contributors (other than the editors) are not necessarily shared either by the editors or the publisher.

The book falls into several sections such as Education, Family, Economy, Polity, Religion, Communication, Medicine and Social Order. The grouping of articles attempted here is by no means normative. Readers may find ovelap here and there which could be taken advantage of by making interconnections wherever necessary. However, for clarity, some systematic grouping will be necessary while cross-connecting issues.

This volume, in many respects, complements the earlier one, *A Vision for India Tomorrow: Explorations in Social Ethics* (1984). Topics which received some attention in the earlier volume were deliberately avoided, or underemphasized in the present one and such of those that were not taken up in the earlier one, say, for example, Chemical Weapons, Energy, Science, Human Rights, and Education are dealt with in the present one. Burning issues like Terrorism and AIDS could not be ignored at all.

We are grateful to all our contributors, particularly to our colleagues and friends who helped in the prepartion of this volume. We specially remember Dr.P. Rajani and Ms. Susan Verghese, registered with the Department of English for a doctoral programme, for revising and correcting manuscripts. We stand indebted to Mr. Y.Arul Kumaran and Mrs. Beulah Daniel for the help with the correction of manuscripts and to Dr. P. Rajani, Dr. R. Gopalan and Dr. Michael Lockwood for the help they rendered in correcting the proofs. We want to thank Dr. Dayanandan and Dr. C. Livingstone for providing useful suggestions to revise the botanical data in the last chapter. All praise is too little for Dr. Gopalan for preparing the indices. With gratitude we record the help rendered by Mr. Abel Rajan, Department of Economics, in providing the list of project reports on Social Ethics.

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For the loving care with which our printers went about producing this book, we sincerely thank them.

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WHITHER VALUE EDUCATION?

J.T.K. Daniel

Introduction

The Education Commission reports of Independent India have always emphasized the paramount significance of value-oriented education and repeatedly expressed the need for introducing viable courses to meet this end. The youth educated in our colleges and universities will be the leaders in the rapidly changing society of our developing nation. It is expected that there will be a minimum of five million university students at the end of this century in our country. While handling such enormous explosion of student population, the challenging task is to raise the quality of higher education and prepare the student for life. The student body and the teaching profession have to be guided by values of honesty and integrity of the unsigned contract to devote all their time to learning, teaching and research in educational institutions and thereby help our society not to suffer any further from issues of social injustice, corruption and erosion of values in public life. As a matter of fact, the need to integrate ethical values into the learning-teaching process at the level of higher education is felt all over the world, as people in different societies face challenges related to ends and means, freedom and responsibility, right and duty, oppression and liberation and so on.

Derek Bok, the President of the Harvard University, writes:

> Universities should be among the first to reaffirm the importance of basic values, such as honesty, promise-keeping, free expression and nonviolence, for these are not only principles essential to civilized society, they are values on which all learning and discovery ultimately depend.[1]

T.K.N. Unninathan, a former Vice-Chancellor of the University of Rajasthan, says:

> There is an urgent need to inculcate values at all levels of our society, without which we will not be in a position to arrest our accelerating social degradation ... Education in human values becomes of paramount importance in the Indian context... A centre for in-depth study, research and undertaking, action-oriented programmes should be set up at each University for promotion of value-oriented education.[2]

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[1] "Ethics, the University and Society," *Harvard Magazine*, May-June 1988, p. 50.
[2] "Education in Human Values," *University News* (New Delhi), Dec.5, 1988, pp.24&31.

In spite of the many achievements in quantity and quality, education stands at crossroads and our political and social life is threatened with erosion of the long-accepted values. Our goals of secularism, democracy and professional ethics have come under enormous strain. The youth of today and tomorrow should be imbued with "a strong commitment to human values and to social justice."[3] Higher education should provide ample scope to study critically the social, economic, cultural, moral and spiritual issues facing the people today. The general apathy, cynicism in society, and erosion of essential values have persuaded the educational policy makers to suggest curriculum changes with the view to making education a forceful tool for the cultivation of social, ethical and moral values. Further, value education ought to lay primary emphasis on eliminating "obscurantism, religious fanaticism, violence, superstition and fatalism."[4]

Value education has to be contextual

No man is an island. He needs the assistance of others. No baby can survive without the tender care and attention of others. The development of personality takes place at home, school and society, in the environment of others. Any academic community placed in the context of many challenges has the obligation to develop in the youth values which can help them become agents of social transformation by taking definite stand against all forces of degradation. The committed individuals in academy ought to be heralds and harbingers of social change. Further, in the process of education young people need to cultivate an awareness of higher and transforming values of life. The maldeveloped nature of our educational system, inherited from the old British apparatus, continues to create a wide performance gap between many policy pronouncements of educational reforms and the actual implementation of them. In this context it may be noted, as Dr. Malcolm Adiseshiah observes, that there is an "integrity gap" in the very planning of the educational system which, inspite of our profound pronouncements of democratisation, helps only the top 20 percent of our society.[5] The fundamental challenge in our country is poverty coupled with illiteracy. Our country has half the world's adult illiterates of 750 million people.[6] The premier institutions of the country which educate our brilliant young people in advanced science and sophisticated technology have no challenging courses to motivate

[3] *National Education Policy* (New Delhi: Govt. of India, 1986), section 1:14.

[4] *Ibid.*, 8.5.

[5] Adiseshiah, "Professional Ethics for Educational Administrators," in Rajammal P.Devadas and M.Chandramani (eds.), *Ethical Values in a Changing World* (Coimbatore: Sri Avinashilingam College, 1987), p.53.

[6] *Ibid.*, pp. 52f.

them to be committed to serve the needy in the developing countries. The emphasis is so much on career as passport to lucrative employment that there is little time for any serious discussion on the ethical issues related to brain drain. Consequently, India seems to educate and equip many talented young people for the developed nations in the North. Our educators in science and technology have the social responsibility of promoting the best models of development, tailored to the genius of our land. Moreover, as Dr. C.N.R. Rao observes, the North is not genuinely interested in the South except for commercial exploitation, and therefore, the possibilities for South-South collaboration will have to be seriously explored.[7]

Another malady of science and technology education is that the scientific community has not unitedly opposed researches related to nuclear war and consequently an alarmingly high percentage of the total researches in the world, including those in the developing nations, is geared towards making more weapons though the world had reached the point of saturation already with sufficient weaponry to turn everything to dust.[8]

While we are proud of the rich heritage of our nation and its many cultures, we cannot be blind to the 'wounds' of our civilization. Many unhealthy influences corrode and weaken our public life. Communal organizations are masquerading as transmitters and revivers of old traditional ethos and in that process they are attempting to inject a large dose of prejudice and intolerance in the minds of the people. There are many thousands of young people proficient in science and technology but shockingly ignorant of moral standards and callously indifferent to their wellbeing. Global and national issues related to environment, nuclear war, genetic technology, sexual perversion, AIDS and so on challenge our society and threaten to demoralize the future generations. We know from the developed countries that material prosperity and technological advancement *per se* offer no proper guidance to humanity, even as there is enormous strain with the breakdown in social and family life. We have made tremendous strides in many fields with the development of science and technology. Nevertheless, with the proliferation of nuclear arms, humanity seems to be sitting on the top of a volcano which could erupt, explode and even annihilate the whole human race and all its achievements and discoveries. What an astronomical expenditure even the developing nations have to incur for the sake of defence and security!

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[7]C.N.R. Rao, "Ethics in relation to Science and Technology, Education and Development" in M.J. Frazer, and A.Kornhauser, *Ethics and Social Responsibility in Science Education* (Oxford: ICSU), p.8.

[8]*Ibid.*, p.5.

Many educationists and statesmen have expressed in the national education commission reports the crying need "to balance the knowledge and skills which science and technology bring with the values and insights associated with ethics and religion ... In the situation that is developing, it is... important for us to give a proper value-orientation to our education system."[9] It is made clear by the national education policy makers that the systole of scientific preoccupation must be followed by the diastole of cultural teaching if the rhythm of human culture is not to miss a few normal beats. The serenity of the sages of the past cannot be altogether divorced from the sagacity of the scholars of the present. Science and *ahimsa* should join together in the creative synthesis of belief and action so that mankind will attain a new level of purposefulness, prosperity and spiritual insight.[10] The Indian educationists want this creative synthesis of belief and action to be a new dimension to the scientific achievement of the West so that higher education could become challengingly relevant. The Kothari Education Report cherishes a similar view and cites Nehru's observation to strengthen this point:

> We cannot be untrue to science because that represents the basic fact of life today. Still less can we be untrue to those essential principles for which India has stood in the past throughout the ages. Let us then pursue our path to industrial progress with all our strength and vigour and at the same time, remember that material riches without toleration and compassion and wisdom may well turn to dust and ashes.[11]

Value education is dialogical

All education is a dialogue between the teacher and the taught. Undoubtedly the teacher plays a significant role in the promotion of excellence and values. Rao rightly observes, "What remains in the student's memory and in his character is the stamp of personality of the teacher rather than the repertoire of knowledge."[12] And the calling of a teacher requires "so delicate a touch that the absence of taste or inclination may deserve to be treated as prohibitory."[13]

Value education is a joint enquiry on the part of the teacher and the taught and it provides immense possibilities for dialogical encounter between persons. Such an encounter helps a person to grow out of his/her in-

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[9]*Kothari Education Commission Report 1964-66*, (New Delhi: Govt. of India, 1966), p. 19.

[10]*Ibid.*, p.22.

[11]Quoted from *India and the World, Azad Memorial Lectures, 1959* (New Delhi : Indian Council for Cultural Relations, 1962).

[12]C.N.R. Rao, *op.cit.*, p.11.

[13]A.G. Hogg, "Principles in the choice of the life-work," *Madras Christian College Magazine* New Series, 11(5), 1911, p.246.

born nature of egocentricity and become other-oriented. According to Reinhold Muhlbaker, there are three premises for this dialogical encounter.[14] Firstly, it is the confidence in the power of growth latent in the pupil with all his/her capacity for self-fulfillment. Secondly, the educationist wishes to see the pupil become greater and nobler than himself. The attitude of a teacher has to be: "he must increase and I must decrease."[15] Thirdly, there is a delicacy in the process of education. A student may be led to self-realization by an educator only by persuasion and not by coercion. The relationship between the educator and the pupil should be an *I-Thou* one rather than an *I-It* one. Scheler warns that whenever a human being is treated as a thing, one can easily notice that "his person slips away from us and that we are left with only an empty shell."[16]

Often people suffer from cowardice which does not face truth, from laziness which contents itself with half-truths and from arrogance which presumes that it knows all the truth. In other words, value education should provide the youth courage to think independently and enable them to distinguish between truth and falsehood and also between sense and nonsense. The precious years of the youth spent in nonreflective learning under an examination-dominated system of education in our universities and colleges have made a good many of them unfit or unwilling to think afresh and study critically the problems faced by them in society. In the absence of cool and objective analysis of facts or any kind of reasoned thinking, the educational institutions tend to copy the example of other sectors of society leading towards continuous unrest, strikes, *gherao* and destruction. But through dialogue between the young and the old, the young may be led to critically ponder over their actions, while the old to reflect on their glib philosophy of life. For, it is abundantly clear that what hampers the national progress is not so much deficiency in material resources and technical expertise as crisis of character.

Value education is praxiological

Praxis, derived from Greek, simply means 'doing'. It implies an activity with a goal. Praxiology is an interpretation or a study based on one's practical or live-in experience. It was observed already that the

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[14]K. Rahner (ed.), "Education," *Sacramentum Mundi: An Encyclopedia of Theology*, pp.218 ff.

[15]*John* 3:30.

[16]K. Rahner, *op.cit.*, p. 219.

largely one-dimensional medium of teacher talk has the least degree of permanence, as far as the learning effectiveness is concerned. In fact, many of our former students remember some important lessons they had learnt from the encounter they had with their teachers who practise the abiding values they profess. Since education is expected to take the youth beyond facts and concepts to the level of values where meanings are made profound enough to change their attitude and character, live-in experience programmes can make certain grim realities of the society clear to them. In the curriculum of value education, provision should be made for the student to have the opportunity to experience real life conditions firsthand, and sometimes to have vicarious experience through role play and consequent reflection so that learning is maximised and internalised. Exposure to the realities of life in slums, ghettoes and factories will create in the students not only an awareness of the problems of the underprivileged in society, but also promote in them a sense of obligation for social action.

The goal of education especially in a developing nation has to be social transformation. A required component of value education should be a report of an empirical study and investigation of a problem faced by our society. Adiseshiah, a former Vice-Chancellor of the University of Madras, suggests quite radically that our universities and colleges close for two years and the students, under the supervision of teachers and educational administrators, work on "community projects in the rural and urban slum areas for which they could be given academic credit."[17] The praxiology suggested by Adiseshiah, though a difficult course to follow, cannot be carried out without proper planning and commitment on the part of the educators. However, it is not altogether a new idea. Several years ago, A.G. Hogg, one of the former Principals of Madras Christian College, in his Convocation Address of the University of Madras in 1935, referred to two young people who became leaders in society. One was a "raw school boy" who spent all his vacation in instructing his village folks about "sanitation, education and evils of party spirit" and introduced an adult literacy programme by starting a night school.[18] The other, equally committed to morality and sound learning, was a student who persuaded his fellow travellers quarantined in a "plague-hut" who slipped away by bribing the government official not to do so and explained to them the social wisdom of the plague regulations of those days.[19] Hogg says that these young people had gained moral values and

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[17]M. Adiseshiah, *op.cit.*, p.54.

[18]A.G. Hogg, Convocation Address delivered on 7th August 1935, *Madras Christian College Magazine*, New Series 5 (1), 1935, p.12.

[19]*Ibid.*, pp. 13f.

social consciousness during their education in school and college, and practised what they learnt and became friends of social order. He added in his address, presented twelve years before our political Independence, that developing India would expect much from its educated men and women of great moral calibre who would speak the truth, nothing but the truth. Hogg[20] highlighted further that there was a profound meaning in the promises which the new graduates make year after year at their Convocation that they would conduct themselves in daily life and conversations as worthy members of the academic community of the university, support the cause of morality and sound learning and uphold and advance social order and the well-being of their fellowmen. The new graduates were advised to take up these promises seriously and not just consider their academic degrees as passports to lucrative employment.

Conclusion

This country has about 9,00,000 educational institutions, educating one sixth of its population. Among them, those involved in higher education are more than three million students in our several colleges and universities. The academic community has the obligation to develop values in the youth which can help him/her become an agent of social transformation. The youth have to be trained to take a definite stand against all forces of degradation of our time. In the process of education young people need to cultivate an awareness of higher and transforming values of life lest they content themselves with their mediocre contributions to a society which has suffered already for several centuries from social injustice, casteism, corruption and erosion of values in public life. In spite of several remarkable achievements in science and technology, it must be admitted that "values are not ingrained in us like shinbone in our leg" and, as a matter of fact, what is inborn in every person is a series of negative values and alienating factors due to original sin.[21] In other words, a person's character is to a great extent learnt and not inherited. Therefore, a deliberate organised instruction of values can play an important part in the process of shaping the destiny of man and his civilization.

In this the academic community has to play a pioneering and futuristic role. It should, however, be remembered that since educational system shares all the evils of society, it is impossible to have lasting values in the educational system alone if the society itself is not transformed. Our youth need to face fresh challenges and experience the adventures of

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[20] *Ibid.*, p.15.

[21] M.Adiseshiah in J.T.K.Daniel and R.Gopalan (eds.), *A Vision for India Tomorrow: Explorations in Social Ethics* (Madras: MCC, 1984), p.v.

transforming our society. In the face of the grim social, economic, ecological and political realities of today, the educationists should renounce all forms of cynical and debilitating pessimism and realise that the opportunity before them is tremendous if only they decide to raise leadership from the youth of today with a vision and commitment to serve the society with a philosophy of eschato-praxis, which means doing the future now ahead of time with lasting values of faith, hope and love.

For discussion

1. Suggest some concrete curricular changes in the Sciences and Humanities which could effectively persuade the student to challenge "obscurantism, religious fanaticism, violence, superstition and fatalism."

2. How could science education in India be contextual?

3. Examine the relevance of Muhlbaker's three premises for dialogical encounter in your academic context.

4. Weigh the pros and cons of Adiseshiah's radical praxiological suggestion. If you think it is feasible, prepare a programme of action.

VALUE EDUCATION: A VITAL COMPONENT OF HIGHER EDUCATION

R. Kanagasabapathy

The aim of higher education is the harmonious development of the three Hs (Heart, Head and Hand) in a student. But it is common knowledge that higher educational institutions, in general, make a systematic effort at the development of the head only. Not much is done towards the development of the heart or the hand. A brain developed without the simultaneous development of the heart, will naturally tend to produce dangerous consequences. As it is generally said, "We end up with guided missiles and misguided men."

Let us take the case of the development of the head, namely, the brain power. If a student scores 35 percent of the total marks, he gets a pass. This means, literally, that he could graduate if he developed one third of the total one third required (or one ninth).

Regarding the development of the hand i.e., health education or physical education, facilities are offered on the campuses to a satisfactory extent only in some institutions. The opportunities available are made use of by a handful of students only. As a rule, no scientific efforts have been made to develop the physical health of all the students.

Regarding the heart, not much effort is made on the college campuses. Of course, in some arts and science colleges, courses on value education/ethical education / moral instruction / Gandhian thought are offered on full-time or part-time basis. Only few students join these courses and get benefited. It is a fact that when the subjects are taught in the classes, especially subjects like history, politics and languages, values are taught by the teachers as an integral part of them. It has also been established that the various cocurricular activities like the NCC, NSS etc. and student services like orientation, advising, and counselling go a long way in instilling certain values in the students. But, by all these means only a small percentage of the students gets benefited. No systematic efforts are made to develop the hearts of all the students.

It has become a fashion nowadays to say in public, especially in educational conferences and meetings, that the present generation students have lost all sense of values and the present system of education is not at all character-building in nature, as desired by the elders. We are also warned that if we move at this rate, humanity will ruin itself. The armaments race, the production of nuclear bombs, the ever-increasing terrorism, the corruption in public life and the wide inequalities in the income of the people do indicate that humanity seems to have lost its values.

For any change to be brought in society, the education system should be such that it will develop all the three Hs. The system of higher education that we have now is mainly aimed at the development of the brain power.

If we analyse how the brain development education is successfully imparted, we realise that students are taught lessons with the main objective of developing their brain power, examined in what is taught, certified to show the extent of their progress and then offered jobs on the basis of the grades of the certificates issued. As such, it is evident that only when we examine and certify academic performance there is motivation for the students to study. When we give "value education" to the students, we should prepare the proper curricula, examine them in those values, certify them to show the extent to which they have imbibed the values. Jobs should be offered to them, not only on the basis of their brain power, but also on that of their values.

Immediately doubts will arise as to whether it is possible to define the values (that we want to inculcate in our students) and measure the development of such values in the students. Innumerable seminars, conferences and workshops have been held and a consensus has been arrived at on the values that should be inculcated in our students, keeping in mind that we are a democratic, secular country aiming at social justice for all. While framing such curricula there may be differences of opinion, but it is always possible to formulate curricula for imparting values in educational institutions. This has been done in many autonomous colleges in our country. Let us remember that even in our syllabi to develop the brain power, there are lots of differences among the various universities, institutions and even among students (therefore, in some western countries each student in an institution is given a different syllabus to suit his needs and capacity). In spite of these differences we carry on the business of development of brain, certify the students and the certificates are universally accepted. Similarly there may be differences in the approach or the content of syllabi of value education courses, but we will be able to teach our students 'values'.

Another objection is that even if values are imparted, these cannot be measured and even if measured, the same will be very subjective. Let us remember that there are many psychology tests which have been evolved to evaluate the attitudes and qualities of candidates. These are successfully used in the recruitment tests of the armed forces and other services. In the Madurai Kamaraj University, in the recent past, an innovation called Part IV was introduced by which all students of the first and second year degree classes were asked to join the NCC, NSS or physical education and score a minimum of 35 percent in that activity to be declared eligible to get the degree. Tools were evolved to measure the per-

formance of the students in NCC, NSS and physical education. Qualities like leadership, sincerity, service-mindedness, punctuality and so on were measured. However, it should be admitted that the tools evolved were not very sharp. But as we move ahead with the experiment we will be able to develop sharper tools to measure these qualities. In this context, let us remember that the tools we use at present to test the brain power of the students are also not very sharp. In the university educational system much criticism is levelled against the examination system for its unreliability. In the universities where revaluation of answer papers was done, it was found that the chance of a student's marks being changed substantially was really high. In spite of all the defects, we accept the present examination system of testing the brain power, certify the students relying on this examination system and offer them jobs having faith in the system. So in the case of measuring values also we should accept the tools that we develop.

Another argument will be that in the testing of the values of a student he could easily cheat the examiners. For example, a student who is not sincere in his attitude, may answer the tests in such a way that he may seem very sincere. The answer will be that we should try to make the tools of evaluation in varied forms to judge the value system of the students accurately. Let us remember that in the brain-development system also we have not completely overcome the question of cheating. For example, a student may commit many malpractices in the written examinations; he may completely memorise the lessons and answer the questions in such a way that the examiner believes that he has understood them. These are all the inherent weaknesses of the examination system, where the examinee and the examiner play hide and seek.

To sum up, only when a student's heart, head and hand are developed adequately by means of a comprehensive programme of education, examined, certified and considered for eligibility for employment will we be able to take pride in our system of higher education and also expect to transform our society.

For discussion

1. What is total education according to the author? Do you think each of the three Hs could be given equal place in the curriculum? If yes, how?

2. What problems will we face while imparting an "education of the heart?" What should be our attitude to them?

3. If we wanted to develop all the three Hs harmoniously, how could we approach the handicapped?

HIGHER EDUCATION: VALUE-FREE OR VALUE-BOUND?

H. Francis Soundararaj

Modern academia is averse to subjection of any kind other than that of scientific objectivity. While this is a peerless value that the 20th century has contributed to intellectual inquiry and development, the stance of neutrality it has brought along with it is not wholly conducive to the right and desirable kind of development. Neutrality requires a disavowal of loyalties, good or bad, thereby making one's alignment with that which is beneficial or that which has value rather ambivalent. One may resist doing harm but one does not consciously strive to do good either. Higher education, which is based on an 'objective' pursuit of knowledge for its own sake, is therefore considered by some to be value-free except that it is 'Truth-bound'. Whatever that may be, one has not argued one's way to any conclusive certainty so far in the march of ideas. The position taken in this chapter is that higher education, at least in our context in India, cannot be value-free; it has necessarily to be bound to a complex system of values.

The moment we begin to consider quality or standard with reference to higher education we recognize our inability to speak about it without reference to a system of values. 'Standard' is often spoken of as something used as "a test of quality for a required degree of excellence." The test, especially in education, may comprise the measure of mental ability adequate to pursue, independently and objectively, any academic activity (such as argument to establish a hypothesis, comparison of given data and their evaluation, conducting a study, expounding a difficult concept, etc.). This may be considered as activity based on academic value. A system of education that ignores this value does so on peril of losing the very purpose of education, which, among other things, seeks to build a sound mind. The true function of education, namely that of drawing out the potential into realisation (Latin *educare* means only that) requires the primary conditioning of the mind to be able to conduct independent academic inquiry. However, when we objectively separate other values from such activity we expose the 'soundness' of such inquiry to risk. One may be efficiently objective and highly intellectual in one's academic inquiry but that does not necessarily follow that it is 'sound'. We can begin talking about 'soundness' only when we do so with reference to values. An intelligent inquiry becomes 'sound' or 'unsound' according as we affirm or deny values. A neutral inquirer, who pursues intellec-

tual inquiry for its own sake, may end up a Machiavelli or a Faustus, or a Satan or a Hitler if he or she is not also moral, if he or she does not stop to think about and resolve the why of his or her intellectual pursuits. It is when we begin to worry about the good or bad of an academic activity that such activity is placed in perspective; the desirability or otherwise of it becomes as crucial as the activity itself. The intellectual expansionism of the 20th century — be it in the field of science or religion or society — has churned out ideas far in excess of the ability to cope, far more than it is necessary for one to cope. Of course, a return to primitivism is not advocated here: we cannot throw away the benefits of the progress of rational inquiry the world has witnessed. We need only to optimize intellectual activity in proportion to the good or desirability of such activity. Where intellectualism works contrary to the good of the society, it becomes irrelevant and therefore, cannot be the sole concern of modern higher education. Gone are the times when 'liberal' education was practical when a leisured class could pursue an intellectual activity for its own sake. When aristocracy is on the wane, and when global human activity cries for involvement in the life of the world with all its needs, problems and puzzles, few can remain in the ivory tower and fewer still in oblivious detachment to ply their own inclinations in seclusion. In our own country, where it is not morally right to maintain futile or irrelevant academic activity at the cost of the rate payer's money which is needed for the relief of the poor our involvement in education ought to be responsible. Our accountability to the people cannot be discounted on grounds of pure academic activity that is not good or right.

What then are the values of higher education in our country? The primary activity is no doubt academic: the building of a sound mind that can innovatively pursue the good and only the good of the society where the academic activity takes place. This does not preclude an objective inquiry which may lead to the finding of truth that can expose the facade of prejudice and ignorance, as, for instance, in matters of religion and magic. It only shifts the good from the bad, the right from the wrong however relative these terms may be.

There are other values with which higher education is involved, at least in our country. Some may insist on an economic value. They may find the standard or quality of higher education high or low according as it brings or fails to bring returns in terms of material output. They are therefore planners of higher education in terms of human resource development which includes unit cost analysis, prediction of the quantum of required man power resource for employment or other economic use and such other economic factors. Such planners would find a mass production of brilliant minds pointless if there is no market for them and if

the income-output correlation is not maintained. Others who are solely academically minded will not grant the wisdom of such value although they cannot deny its importance in the overall scenario of higher education in a developing country.

Another value is that of social transformation which basically raises issues of justice and equity. Sociologists understand society as a network of unequal dichotomies between the rich and the poor; the privileged and the underprivileged or unprivileged; the educated and the illiterate; and the mighty and the marginalised. A social order which maintains such inequalities is by general consensus unjust and it is the noble call of education to work against such a state of affairs and bring about a change which makes for greater harmony, equity and general welfare. Educators therefore speak in terms of a just world order which may be brought about by conscientizing the oppressed and the deprived to their legitimate rights to a fair deal in life on this planet. Promoters of this view — Paulo Frere being one of the most powerful educational exponents of the concept — find education of the highest quality to be that which brings about social change. Marxism and Socialism, among other world ideologies, are wedded to this value. Whereas a purely academic scholar will find social utility a nonacademic burden in his or her inquiry after knowledge, a nationalist or social philosopher will find a purely academic inquiry pointless especially in the context of the crying need of the society in a social crisis. We may put this in another way. Some may legitimately ask, for instance, "what is the use of advanced war technology when there would be none to worship its intellectual display after the warheads have wiped away the spectators," which is not an impossible proposition if we are only academic in promoting research in this area.

Some others affirm success as an inescapable value, at least situationally. Usually, in the scale of classical values of high thinking and high living, success is placed low and is often frowned upon. In a competitive society, however, any endeavour that does not ensure that success which is the means of existence is rated low. An education that does not provide employable men and women is not accepted by some as high quality education. Of late it has been felt that standards of education have fallen because it has failed to provide success in terms of careers in this competitive world. While careerism is held up as undesirable, equipping learners for careers by itself is not. For this reason vocationalisation of courses of study is found generally acceptable insofar as it opens the door to many for earning their bread. For the same reason, however, competition success in the higher echelons of employment — which includes an ambition to rise in social status — is not often accepted in the same way at least by those who are not selfish. If we approve of this distinction between

success and success, that which is obligatory for a system of education to provide as minimum academic necessity, and that which is but a luxury not wholly academic — we may allow the value of success. If the term value means "that quality which is desirable" by common consent, success that is commended herein becomes another academic value.

Some educationists consider the value of education as that which "improves and ennobles" character by cultivating "the moral and spiritual as well as the intellectual faculties."[1] The value that Dr.William Miller prized in his vision for education in India is that of "good citizenship and good life."[2] Again the same emphasis is found to occupy the mind of another educationist of the missionary era, A.S.Woodburnf who observed: "The unfolding of every personality that comes within the radius of our influence to its maximum capacity, the irradiation of a spiritual culture that will illuminate every life ... this is our high aim."[3] The value affirmed by these educationists is fuller life that is complete in all respects — a total and rounded personality. Upon this rest the style of living, the alignment with such values as are ennobling and the courage to be what one ought to be and not what one is desired to be by others. Moral and spiritual values such as these are the fabric of an ideal society that is not wholly materialistic in outlook. Where society is inescapably thus, as it is today, these values are all the more necessary to arrest deterioration and mercenary compromises.

In a country like ours these different values — academic, economic, social, material, moral and spiritual — vie with one another for a place of prominence. It is in accordance with the goals of an educational institution that these values or a combination of them may be prioritized. The academic base runs across all disciplines of knowledge which are diverse, but that does not mean that academic inquiry is consequentially value-based. One can make a brilliant analysis of the Indian economic problem but unless it is integrated with the concern for the plight of the poor and unless it is aligned with an endeavour to render justice to them, the dry-as-dust academic exercise does not take the inquiry very far. It is not value-based; it is only an instance of brilliance without purpose; an exercise that is directionless. This is true of every discipline of knowledge; that which does not affirm a system of values remains bare, and pointless; and that which so affirms is admirably intellectual as well as moral.

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[1]'Historical Sketch' *Madras Christian College Calendar 1896-7*, p. vi.

[2]W.Meston, "The College Commemoration Address," *Madras Christian College Magazine*, Oct. 1923, p.235.

[3]A.S.Woodburnf, Address given at the Prize Distribution, *Madras Christian College Magazine*, Aug.1927, p.92.

Values are not absolute; they change from time to time and so do goals of education. Giambattista Vico, an Italian philosopher and rhetorician of the University of Naples of the 18th century, traces the origin of institutions to the same cause: "The nature of institutions is nothing but their coming into being (nasciments) at certain times and in certain guises. Whenever the time and guise are thus and so, such and not otherwise are the institutions that come into being."[4] If, then, institutions take the 'guise' of the age into which they are born it is inevitable that goals and values also change accordingly whether we like or not. In our own country the system of education that was prevalent during the forties and fifties of this century was predominantly colonial in character. There was no doubt an ebullience of national aspiration to march into the promised land of free India but the values of a democratic system did not supersede those of an earlier era. Educational objectives were limited to the supply of administrative assistants and the task of shaping free India lay essentially outside the academia and within the purview of men and women in politics and public life. The curricula therefore did not reflect the aspirations of the people and the shaping of their destiny. That which was reflected in them was the end product of political thinking and economic planning by the State. As a result curricula were kept traditional and at best they prepared subservient men and women who made good clerks in banks and offices and good teachers in schools. Democratic participation in nation-building processes was not the aim of our education. On the contrary, the end of education was still maintained, consciously or unconsciously, as that of providing for making careers. Meanwhile the advancement of science and technology elsewhere in the world had its impact on our nation. This has been the common phenomenon in developing countries. The establishment of technical and professional institutions, the promotion of science education and research and the culmination of this in computer development and education shows another trend which determines the present 'guise' of our society. The third influence is that of commercialisation and organised management of commercial institutions in order to promote material wealth. These three developments — colonial bureaucracy, modern technology and recent commercial management to promote material prosperity — have determined the 'guise' of our educational institutions. It is that of the material development of the individual. It is unfortunate that the benign and challenging aspiration of democracy was not taken at its full tide by educational institutions which were still governed by the Western vi-

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[4]Thomas G.Bergui and Max Fisch, (trans.), *The New Science of Giambattista* (Cornell Univ. Press, 1961), p.318.

sion of higher education. Bereft of the democratic values of equity, participation, harmony and corporate building up of the nation, the educational institutions of our country had reduced these values to mere platitudes and failed to realize them as living exercises of our vision and aspiration. The guise they have put on, therefore, is that of the foster mother who feeds the appetite and sings the baby to comfort in slumber. The educational system still continues to prepare men for bureaucracy and jobs and holds up the dangling carrot of lucrative careers abroad and business profit inland. The pursuit of academic excellence to project the vision and aspiration of the people, to stretch creative imagination to paint panegyrics of these noble values in art and literature, to raise men and women of high calibre who can cry down slavery like Lincoln and Wilberforce or impeach an exploiter of a colony like Burke or serve selflessly like the Lady of the Lamp — these and other results of good education are still a far cry.

Given this guise of our educational system, it becomes imperative to make it value-bound, if we want to give it an identity of its own. The National Educational Policy of 1986 envisages such a proposal. It aims at generating "the culture of the pursuit of excellence and of thinking beyond traditional lines" in order that it may be "brought to bear both on the quality of education,"[5] and on the solution of real problems of the society.

An integrated system of values that is laid behind the curricula seems to be the step in the right direction. It may include: independent, objective academic inquiry with the specific purpose of developing sound judgment and true perception of right values; a concern for and practice of equity and justice in such inquiry; a strategy that ensures the return that academic development can bring in terms of service to society and its high life and of our own institution's possible contribution to it; and the promotion of such values as may be found expedient to bring about social change. Such an integrated value system may well lie behind any curriculum in order to make it purposeful.

The foregoing account is an attempt to demonstrate that a pure academic activity devoid of values is an impossibility in the context of present economic, political and social challenges from which we cannot remain detached. Education is therefore necessarily value-bound, not value-free. Value, again is not something abstract, it is the ground and base of our life here and now. It, being so, is complex. Academic value is integrated with social, economic, material, moral and spiritual values. One

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[5]*National Policy of Education, 1986,* XI Sec.2,pp.1-3.

cannot be divorced from the other. It is in building a network of these values in the chosen order of priority within the curricula of an educational system that we seek to give it a natural identity of its own besides making it helpfully purposeful. Such a curriculum-in-action will fight the ills to which our present system of education has been exposed far too long. Until this happens the present guise of our system as a foster mother feeding appetites of careerism will remain unchanged. Much less can we hope for the embodiment of our aspiration in our educational endeavour.

For discussion

1. The proper objective of an academic institution is academic excellence. Debate.

2. What are the three major influences on modern education which have, according to the author, determined its guise? Assess the significance of these influences.

3. What are the implications of postulating an integrated system of values as the objective of the curricula of educational institutions, particularly of the institutes of science, technology and commerce?

4. Attempt to identify the objectives of higher education upheld in your vernacular literature.

RESPONSIBLE SELFHOOD: A MODEL FOR CHARACTER DEVELOPMENT

James W. Fowler

STORIES

-Belonging and Inclusion

Family	Religion
Nation	World
Friends	Workmates

-Suffering and Heroism

-Virtue and Vice

-The Meaning of Community

-The Nature of Reality (God)

DEVELOPMENTAL CAPACITIES, SKILLS

—Cognitive Development

—Social Perspective Taking

—Moral Reasoning and Judgment

MORAL ATTITUDES

—Voices of Conscience
—Of Craft
—Of Sacrifice
—Of Membership
—Of Memory
—Of Imagination

INFORMATION AND KNOWLEDGE

STRENGTHS OF CHARACTER: VIRTUES

—Prudence:	Good Judgment, Dialogue, Discernment, Seeing Things Whole
—Justice:	Fairness, Equity, Network of Care, Inclusion
—Courage:	Resoluteness, Resourcefulness, Loyalty, Determination, Sacrificial Commitment
—Temperance:	Self-Management, Discipline, Balance and Proportion

THEOLOGICAL VIRTUES

—Faith —Hope —Love

The chart shows the interrelated components of character formation. It seeks to convey that the components, while separably identifiable, work in interaction with each other and in a more or less comprehensive and coherent unity in persons and in communities. There is no suggestion that one or another of the components precedes the other in development, or that there is a necessary sequence in which they emerge. Rather, development of certain sorts is built into the model, as we will see more clearly in a moment. There is, however, a kind of cumulative richness intended in the spatial representation of these components which results in or constitutes character and the virtues. Crudely, it might be put this way: The provision of rich normative *Stories*, plus the forming of *Moral Attitudes*, plus the stimulation and support of *Developmental Abilities*, plus the systematic provision of *Information and Knowledge*, taken all together in environments where students are known, and experience care and accountability, maximize the possibility of the formation and nurture of *Virtues and Strengths of Character*. The value of such a model is that it clarifies how each area in the curriculum, each curricular or extracurricular activity, as well as the leadership approaches of teachers and administrators and the ethos of the school as community, can contribute to one or more of the aspects of character education. Theoretically and practically, the cumulative flow of the model also helps us begin to appreciate, in contemporary terms, the remarkable multidimensional range of meanings which the classical concept of the virtues comprehends.

Now let us look at each component of the model in a bit more depth.

Stories

Thomas F. Green's work on conscience[1] sets the stage for our consideration of the fundamental importance of *narrative* in the development of character. Of course there is, in our time, a growing body of literature in the so-called "ethics of character" which compellingly delineates the ways in which certain kind of stories provide us with indispensable moral orientation, motivation, and identifications.[2] As the chart

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[1]See his John Dewey Lecture for 1984 entitled, *The Formation of Conscience in an Age of Technology* (Syracuse: Syracuse University, 1984).

[2]See Steven Crites, "The Narrative Quality of Experience," *Journal of the American Academy of Religion*, XXXIX, (3), September, 1971, pp. 291-311; James Wm. McClendon, *Biography as Theology* (Nashville, TN: Abingdon Press, 1974); Stanley Hauerwas, *Vision and Virtue* (Notre Dame, Indiana: Fides Press, 1974), *Truthfulness and Tragedy* (Notre Dame, Indiana: University of Notre Dame Press, 1977), *A Community of Character* (Notre Dame, Indiana: University of Notre Dame Press, 1981); and Craig R. Dykstra, *Vision and Character* (New York: Paulist Press, 1981). For important background sources for these perspectives see H. Richard Niebuhr, *The Meaning of Revelation* (New York: Macmillan, 1941) and James G. Gustafson, *Christian Ethics and the Community* (Philadelphia: Pilgrim Press, 1971).

suggests, normative stories of belonging and inclusion (Green's conscience of membership and memory) come to us from our families, our nation, our religious traditions, our colleagues and friends. Increasingly in our time we are receiving stories that invite us to membership in the global community (Green's conscience of imagination). Such narratives help to establish our sense of rootedness. They provide important sources of identity and identifications. They establish the moral horizons in which we construe present situations requiring moral initiatives or responses, as well as giving us a repertoire of the previous initiatives and responses of others. Narratives portray vivid examples of the virtues and vices. They conserve and convey the sacred history and meanings of our communities. And some narratives — our religious 'classics' —bring to expression our community's memories of the disclosure-transformation events which reveal the character and being of the transcendent.[3]

For purposes of character education in the schools, the stories of the school itself, its mission and character are important, as are the 'myths' that teams or classes within the school create as they live and work together. Helping children and youth reclaim some of their family, racial or ethnic stories can provide important dimensions of identification and membership. The tremendous influence and energy generated by Alex Haley's book *Roots* and its television series powerfully demonstrated this. Moreover, the history of the nation and of states or regions must be taught in such a way that it provides opportunities to glean from the narratives and biographies identifications with instances of suffering and heroism, fidelity and compassion, oppression and liberation.[4] Most of all, the story of a nation must be compellingly told in such a manner that it makes vivid and accessible the vision of covenant solidarity and accountability, as well as the dedication to equality, freedom, and the inalienable rights of each person to life, liberty and the pursuit of happiness. It must be told as an inclusive "Story of our stories," and must include ac-

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[3]For the idea of the 'classic' see David Tracy, *The Analogical Imagination*, (New York: Crossroad Press, 1981), esp. chs. 3-5.

[4]For an important discussion of the teaching of history in such ways that it contributes to character development see Charles Strickland, "Curricular Approaches to Character Education: History and Biography" Emory University. Unpublished paper prepared for Conference on Moral Education and Character, U.S. Office of Education, September, 1987.

counts of the "dangerous memories" which require that we continue to widen the bounds of membership and stay responsive to prophetic criticisms and visions.[5]

Developmental abilities

There is an important place in character and civic education for the contributions of cognitive developmental theories and approaches to moral education. The cognitive ability and willingness to grow in the disciplined empathy of social perspective taking contribute to a crucial set of skills that are integral to character development. As the work of Lawrence Kohlberg and his associates has shown, social perspective taking is constitutive for moral and ethical reasoning. They have demonstrated that there is a developmental sequence of stages in the acquisition and exercise of these cognitive functions. While Kholberg's theory and research is less helpful in accounting for the role of moral emotions in disciplined empathy, in a more comprehensive account of character, his perspective helps us make that connection.

Part of the strength of a model like this is that it begins to suggest linkages between developmental abilities and both the components of story and moral attitudes. Developmental capacities also affect students' appropriations of the component of *information and knowledge*. Such developmental abilities can be nurtured in engagement with each and every area of the curriculum. The skills of perspective taking can of course be cultivated in classroom activities and interactions and in extracurricular community involvements. But they can also be augmented through the study of literature, through the engagement with conflicts in science or social studies, and through historical and biographical studies. The different forms of moral reasoning can be taught, not as abstract theories, but as frameworks of analysis for understanding and evaluating critical moments in the nation's past (Lincoln's decision to write the Emancipation Proclamation) or in a particular figure's biography (Daniel Ellsworth's decision to release the *Pentagon Papers*). When actual issues arise in the life of the school or community, the preparation made by utilizing and understanding these different modes of ethical reasoning,

[5]This chapter begs one very central, very important question: There must be a "cultural canon" of normative stories and information pertinent to formation in civic education. Such stories must indeed be part of a rich, inclusive "Story of our stories." In the project on ethics and public education we are addressing this question, but are not yet prepared to offer such a canon or the criteria for establishing it. Unlike Biblical canon, the civic canon should not be closed-ended, though there certainly will be certain nonnegotiable 'classics' that must be included in any listing. For efforts at establishing such a canon see Horace M. Kallen, *Cultural Pluralism and the American Idea: An Essay in Social Philosophy* (Philadelphia: University of Pennsylvania Press, 1956).

and the skills of disciplined empathy, can be crucial resources in civic education.

The formation of conscience for participation in public life

Green's *The Formation of Conscience in an Age of Technology*[6] seeks to emphasize a more comprehensive understanding of the *moral* in moral development than either the cognitive developmentalists or the Durkheimian sociologists have. In choosing the concept conscience as his unifying and inclusive term for that aspect of human knowing and being that needs to be formed in moral education he knows that he is taking a unique tack in the present discussion. His principal thesis is that moral education has to do with the forming of attitudes and virtues, which, in the light of the liberal political and ethical theories would be regarded as 'nonmoral' or 'premoral' virtues. Green wants to show the ways in which conscience both permeates and draws from such qualities as our manners of doing our work and conducting the business of everyday life, our loyalty and fidelity as members of groups and associations, our sense of identity and rootedness in a place and with people, and our capacity for imagining and keeping solidarity with generations yet unborn. Conscience involves all these dimensions, Green says, as well as that more usual understanding of the term which refers to the imperativeness of doing what is one's duty, even when it requires the sacrifice of one's pleasure or going against the sense of one's own best interest. He says:

> It is a simple fact that each of us has the capacity to judge our own conduct and even to stand in judgment on what we discern to be the composition of our own affections. The point I want to stress about this experience is not that it involves judgment of moral approval or disapproval, but simply that it is judgment that *each of us makes in our own case.* In short, it is reflexive judgment. Furthermore, it is judgment always accompanied by certain emotions which, if not exactly the same, are nevertheless like moral emotions. I can feel guilt, shame or embarrassment at a job poorly done and these are the same feelings I have when viewing some moral failure of mine. This capacity of ours to be judge, each in our own case, is all that I mean by conscience. Conscience, as St. Thomas put it, is simply reason commenting upon conduct. And this capacity, please note, extends far beyond the capacity to comment merely upon matters of morality narrowly conceived. It can extend to self-judgment even in such matters as washing the car, planting the garden, getting dressed, or crafting a good sentence. These are all activities that can be done well or badly in our own eyes. They are all activities subject to the commentary of conscience.[7]

While Green understands conscience in this unitary and comprehensive way, he points out that it speaks to us in different voices. He identifies and discusses five such voices. They include the following: (1) the

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[6]Thomas F. Green, *op. cit.*, p.34.

[7]*Ibid.*, pp.2-3.

conscience of *craft*; (2) the conscience of *sacrifice*; (3) the conscience of *membership*; (4) the conscience of *memory*; and (5) the conscience of *imagination*. Let me try to characterize each of the voices briefly.

The conscience of craft

At the most obvious level, Green is proposing that conscience involves making habitual an attitude of doing the things one undertakes thoroughly and well. This means acquiring a sense of the standards for excellence in the domains of one's activity. It also means conscientious work at the acquisition and practice of the requisite *skills* involved. "Developing a sense of craft is not all there is to the formation of conscience," says Green. "Still it is an important part ... We make a serious mistake if we fail to recognize the conscience of craft and to acknowledge that *it may be in the acquisition of a "sense of craft" that the formation of conscience takes place most clearly.*"[8] Following the Greeks, Green invites us to see that forming the conscience of craft is part of the larger task of learning to live well. The principal sin for the Greeks, Green says, was not, as is commonly thought, *hubris*, the inflation or pride that "goeth before a fall." Rather, he suggests, the cardinal sin is, properly, *hamartia* —the missing of the mark or the target, as in archery or in art. In *hamartia* one fails to live well, in some comprehensive sense, through repeated carelessness, inattentiveness, or through a stubborn refusal or inability to learn.[9]

The conscience of membership

Green observes that most discussions and approaches to moral education focus upon conscience and the development of judgment as primarily individual matters. Only after attending to the qualities needed in the management of one's individual life do we ask about one's fitness for public life or service. He proposes an arresting counterpoint: "...(A) conscience formed for conduct in the skills of public life is more likely to be a conscience suited to private life than a conscience formed merely for private life is likely to be suited for public life."[10] This thesis represents a strong claim that the community is prior to the individual. We should note, in passing, that this thesis runs directly counter to the assumptions underlying social contract theory. The person is indelibly social and the formation of the person occurs in the context of the relations, meanings, rules, laws and culture of the community.

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[8] *Ibid.*, p.12.
[9] *Ibid.*, p.6.
[10] *Ibid.*, p.7.

Moral development as the formation of conscience means forming a set of bonds — of attachment — to the community. It means forming the moral emotions which are appropriate toward the norms which give permanence, legitimacy and stability to the community's praxis — its way of living and being. If we take this priority of community over the individual seriously, Green seys, it significantly alters our approach to moral education:

> By such a thesis, civic education can no longer be viewed as a mere addendum, a mere footnote, to moral education, something that comes after the main business has been accomplished. On the contrary, education for a public life would have to be viewed as the central problem which, being understood, then allows us to understand the formation of private conscience.[11]

Green points to two essential sets of skills required for effective exercise of the conscience of membership. The first skill he points to involves learning that whenever one is asked whether a given policy or proposal is a good thing for us (the group) to do, it is never sufficient merely to answer 'No.' "It is necessary," Green says, "to go on and add some proposal for improvement." After trying to exercise this skill one may decide that though the present proposal is less than ideal, it is the best possible now. Or one may decide that one must develop more skill in order to be able to propose an improvement. In either case, one has entered more deeply into the proposal, the situation, the minds of one's fellows, and into one's own responsibilities and possibilities for growth.

The second set of skills required for the conscience of membership involves a self-critical use of empathy.

> Whenever it is asked whether X is a good way for us to do Y, then if you answer 'no' and offer a better way, or if you answer 'yes,' you are obliged to confront three more questions. (1) Whose interests are you expressing? (2) Whose interests are you not expressing? and (3) How does your proposal balance the goods being sought (from these several perspectives)?

Green goes on to say,

> [I]ndeed, the very act of stating the interests of others, as others see them, and stating them out loud and, if possible in the actual presence of those others ..... that is often in itself a powerful exercise in empathy, an exercise by which the interests of others are allowed to actually enter into our own... Such a lesson requires the actual employment of empathy and at the same time promotes its acquisition.[12]

In his critique and rejection of the work of Lawrence Kholberg, Green seems to be unable to recognize just how central to Kohlberg's developmental theory and his practice of the "Just Community School" this kind of disciplined empathy — social perspective taking, Kohlberg calls

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[11] *Ibid.*

[12] *Ibid.*, pp. 13-14.

it — really is. Nor does Green seem to see or acknowledge that Kohlberg's explicit goal in moral education is to provide for the practical acquisition of the skills, understanding, and commitment to the common good which Green himself calls for. Green's impatience with Kohlberg stems, in part, from his concern with other aspects of the conscience of membership, which have to do with entering into and taking upon one's own identity the stories and myths, the morals and the meanings of the community. These factors Kohlberg does neglect. We will give more attention to them when we speak of the conscience of memory, a bit farther on.

The conscience of sacrifice

By this Green refers to the conscience of duty and obligation. In a manner that reminds us of W.D. Ross's justly famous discussion of *prima facie* duties,[13] Green wants to impress upon his readers that

> there are certain moral practices of almost daily experience within which the voice of conscience as duty speaks clearly. I have in mind the keeping of promises, as well as the keeping of contracts and confidences, which are like promises. When I say, ' I promise,' the future becomes firmly fixed. By pronouncing these words I declare that whatever may be my prudential interest at some future time, I shall lay them aside. Instead, I shall perform the promised act.[14]

The final two voices of conscience which Green identifies can be understood as closely related to the voice of the conscience of membership. They are the *conscience of memory* and the *conscience of imagination*. By reference to the conscience of memory Green affirms the importance of narrative — especially the myths and stories that link us to the past and meanings of our people and place — in the formation of our characters and our sense of 'rootedness.' By rootedness he means the deep sense of identification with and assent to the distinctive sources of strength (mixed always with some weaknesses or limits) which form the soils that have nurtured us toward personhood, language, meanings, myth, and aspiration.

> What I am here attempting to point to as rootedness is often called in the modern world as commitment... But the word "commitment" is inadequate and misleading. It rings with overtones of will, as though I am free to choose what I am not free to choose... We are not free to choose it, but we can reach a point where we possess as our own what already we have been given. And ... [w]e might attain that point where we learn to work not only within but upon our inheritance. That is rootedness, and it is hard to suppose that there can be any education complete without it or any moral education at all without it.[15]

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[13]W.D. Ross, *The Right and the Good* (London: The Oxford University Press, 1930), esp. ch. 2.

[14]Green, *op. cit.*, pp. 19-20.

[15]*Ibid.*, pp.21-22.

The conscience of memory means keeping faith with those persons and traditions that have formed us. It means claiming as our own the legacy of competence.

Information and knowledge

What is 'basic' in education is not learning 'Reading,' 'Writing,' and 'Arithmetic.' Real literacy involves having information enough at our disposal, and practice enough at ordering it into cognitive maps, that we can process, evaluate, select, understand, digest and utilize the overwhelming amounts of information that are accessible to us in print. It becomes clear how interrelated the acquisition of information and knowledge is with each of the other components of the Responsible Selfhood approach to character education.

Strengths of character: virtues

In the introduction to the Responsible Selfhood model I indicated that, cumulatively, the components of character that it depicts flow together to form and fund the strengths of personhood which have traditionally been called 'virtues.' Virtues are dynamic qualities of person constituted by the convergence of *at least* as many aspects of moral personality as its model seeks to depict. Neither space nor my expertise will allow a thorough consideration of the virtues toward which we aim in a *paideia* based on this model. For the time being, therefore, I take this traditional listing and offer brief explications of a contemporary reinterpretation of the virtues, based on what has gone before in this chapter. To make these meanings truly contemporary, however care must be taken not to let these old names bring with them the legacy of sexual and ethnic or racial exclusivism and class privilege which citizenship connoted in the Greek *polis*.

Prudence

In this redrawing of the virtues, prudence becomes the equivalent term for "good judgment." Good judgment involves, of course, having sufficient knowledge of the relevant circumstances in any situation requiring response or initiative. But it also means having the cognitive ordering or mapping of that knowledge so as to illumine in relevant ways the complexities and subtleties of the situation. Moreover, prudence involves skills of consultation, dialogue and discernment with others. Informed by moral attitudes and conscience, and by stories that offer both motivation and models of effective concern for the common good, prudence, as good judgment, reaches decisions — or contributes to group decision-making — on the basis of a deliberate effort at seeing things whole.

Justice

Traditionally justice meant "giving to each his/her due." We cannot here rehearse Aristotle's rich account of the different modes of justice. In this contemporary reconstitution of the virtues, justice includes such capacities as the commitment and competence to establish fairness. It includes equity and even-handedness, both in interpersonal relations and in social policy and the treatment of groups. It means consideration and care for the networks of care and interdependence that make being and well-being possible. And it embraces the imperative to keep open and expanding the membership of those entitled to regard and treat with full humanity and humaneness.

Courage

For the Greeks courage was the quality of emotional and intellectual fortitude sufficient to carry out what prudence and justice determined to be the proper course of action in any situation. It is hard to improve upon that conception of this composite set of qualities. However, informed by the conscience of imagination, courage, in the service of the common good in a covenantally based society, must have a forward-looking component — the nerve and resoluteness to hold in view the future dangers and threats to the common good, and to insist upon engaging them. Courage also exhibits resourcefulness, a determined readiness to find means to do what justice and prudence require. Finally, courage involves the strengths of loyalty and fidelity to those causes, persons and institutions for which one has covenant responsibility.

Temperance

In contemporary terms the traditional concept of temperance becomes 'self-management' or 'discipline.' It is related to the conscience of membership and memory and grows out of self-knowledge and clarity about what constitutes worthy manhood or womanhood. Temperance is also grounded in the conscience of craft in the sense of learning to live well and being a kind of artist with one's life. Involving balance and proportion, temperance is proficiency in the ability consistently to discern and "hit the mark."

Without love, commitment to the other virtues we have discussed tends to deteriorate and fall too much into the self-regarding use of virtues to establish one's own worth. Similarly, without hope — hope in the responsiveness and fidelity of others, hope for a future in which to be virtuous and committed to the common good, the virtues tend to lose their point. Finally, the whole setting of the virtues, as conceived here, is

one of covenant commitment to a common weal, a common good. And without faith — a trust in and loyalty to that covenant community, and the body of story and myth that gives it its determinate character and corporate vocation — concern with the virtues can deteriorate to a kind of individualistic manicuring of one's own soul.

For discussion

1. Attempt to tell the story of your family in turns. Similarly, create the story of your college too.

2. Could you recall the 'plot' of a story in which virtue and vice conflict with each other?

3. Try to recall a crisis situation in which you found yourself and attempt an analysis of it by means of raising as many ethical questions as possible. Other members of the group may tell you how they would conduct themselves if they were in your place. Try to judge your conduct.

EDUCATION FOR SOCIAL TRANSFORMATION

T. Ambrose Jeyasekaran

Education has come to be realised as a power which would bring about social and economic changes. No wonder that the builders of states, together with a host of thinkers and intellectuals look upon education as the most effectual and perhaps, the only means of giving immortality to the type of character and society they wish to create. Prof.Dency defines education as "the process of remaking experience, giving it a more socialized value, through increased individual experience, by giving the individual better control over his own powers."[1] Many educational experts believe that education plays an important role in the building up of values and attitudes of mind in the people so essential to enable their active participation in life.

Education was given a pride of place in ancient India. But later, it was accessible only to a privileged minority and the masses were virtually kept out of the educational scheme. It was only with the advent of the Europeans, particularly the missionaries, that mass education was introduced in India. The Madras Presidency was fortunate to have the Protestant missionaries, who, from the very beginning, took interest in the education of the 'natives'. Over the years many missionary societies evinced interest in the education of the people and the nineteenth century witnessed proliferation of schools and colleges.

A new era in the history of education in Madras was begun by the Church of Scotland Mission. This agency was one of the last to come into the field, but grew to be one of the most important in the Presidency. Its first educational missionary to South India, the Rev. John Anderson opened a school in Madras in 1837 "to convey through the channel of a good education as great an amount of truth (especially Bible truth) as possible to the people of Madras. Every branch of knowledge communicated was to be made subordinate to this desirable end."[2]

The establishment of the school gave an impetus to the educational work of the Scottish Mission. The Mission had been an exponent

[1]P. Monroe, *A Brief Course in the History of Education* (London:Macmillan, 1947), p.406.

[2]S.Sathianadhan, *History of education in the Madras Presidency* (Madras: Srinivasa Varadachari & Co. 1894), p.39.

of a policy of presenting Bible truth to the high caste Hindus through the medium of English education, so as to bring about an intellectual ferment and social change. Anderson and his colleagues considered the spread of enlightenment and the propagation of the Gospel as virtually indistinguishable. To them, purely secular education without religious content was incomplete.

Soon Anderson's school became a model for all educational endeavours in Madras. Unfortunately, Anderson's premature death in 1855, and the lack of adequate personnel to take care of the educational work thereafter, hampered the progress of the school. When they wanted to close down the institution, there appeared on the scene, in 1862, a versatile and energetic young Scot, the Rev.William Miller, to take over the burden of missionary labour of the mission in Madras including the supervision of the school. Miller said that the school must take up the responsibility of education. Despite many difficulties Miller managed to put the school back on its rails. Within a short time he made the institution play a key role in the education of that region.

To Miller goes the credit of carving out, from the school, the Madras Christian College. As the first Principal of the college, he not only shaped the policies and the destiny of the college, but exerted his charming influence on the educational activities of the Madras University and the Madras Government for nearly half a century.

Miller opined that teaching and learning were the means to permeate the masses with Christian character and with the highest ideals in life. He said that education given in his college, in whatever subject, was given for its own worth and thoroughly. Both religious and secular instruction were to pervade each other. He felt that religion must be enlightened and kept fresh by appropriating all knowledge, while knowledge must be infused with religious spirit to preserve it from corruption. He held that education should be adapted to the context and yet follow the unity of that part of human nature which it was meant to develop and ennoble. The highest scheme of education was that which corresponded to completeness and harmony. Such an education, he said, must discipline character, mould feelings and form habits.

Miller was an outstanding educationist of his time and he left an indelible mark on the educational history of India. He was a member of several educational commissions and was the architect of the Madras Educational Rules. Miller encouraged a close relationship between the teacher and the taught. He decried the examination-oriented system of education and was very much opposed to 'cramming.' He wanted to develop original thinking in his students and hence created opportunities for it through various Societies, Associations and Clubs. The founding

of a library in 1863 testifies to Miller's far-sightedness in the development of wider reading habits among the students. Miller believed that education should not be confined to the four walls of the College buildings but be related to the society outside. The initiation into social work experience such as adult education, night schools and hospital visits even during the early years of the twentieth century point to the pioneering role played by the Christian College in this direction.

Miller believed that the acid test for an effective educational system was the measure of influence the old boys of a college wielded on the society. The earliest Alumni Association among colleges in India, established in 1891, became a channel of communication through which the experiences of the old students were shared. The graduates of the College became catalysts for social change. They began to develop a new consciousness of their important role in the society and contributed immensely to the growth of literature, culture and society.

Many are the illustrious successors of Miller who continued to uphold the traditions in an effort to make the Madras Christian College a centre of educational excellence in imparting sound learning, building up of character and the spread of spiritual knowledge. This College has given a lead in several areas of academic activities for other colleges to emulate.

Miller championed the cause of aided education for which the Government provided supporting finances but left the private agencies to carry on their own education programmes. This enabled the various missionary educational institutions to give religious instruction to all its students. Since the Government followed the policy of religious neutrality no religious instruction was given in its institutions. The other private institutions did not evince such interest in religious education. However, there was a growing sense of awareness for the need of some kind of religious or moral instruction in schools and colleges. The Education Commission of 1882 emphasised the need for moral training as necessary as intellectual or physical training. It reported that the great majority of the heads of educational institutions had expressed a strong desire for moral instruction as part of the college course. The Commission recommended that an attempt be made to prepare a moral textbook based on the fundamental principles of natural religion, such as might be taught in all government and nongovernment colleges. The Principal or one of the Professors in each college might deliver to each of the college classes in every session a series of lectures on the duties of man. But such programmes never caught on among the colleges for a very long time. Religious instruction could not be carried on effectively for long on account of the introduction of the "conscience clause," which permit-

ted any parent to withdraw his son or daughter from the religious instruction class if his conscience troubled him.

But many felt that some kind of religious education must be given in educational institutions. Mahatma Gandhi, while expressing the need for religious instruction in colleges, said that a curriculum of such nature should include a study of the tenets of faiths other than one's own. For this purpose the students should be trained to cultivate the habit of understanding and appreciating the doctrines of various great religions of the world, in a spirit of reverence and broad-minded tolerance. He said, "If India is not to declare spiritual bankruptcy, religious instruction of its youth must be held to be at least as necessary as secular instruction."[3]

But such opinions were not seriously taken into consideration in many colleges in India. After Independence many Christian colleges started offering moral instruction to non-Christians as an alternative to religious instruction. The various Education Commissions, constituted in the Independent India, have been emphasising the need for value-oriented education. The Radhakrishnan Commission held the view that in addition to the search for truth through scientific and scholarly pursuits, an important task of education is the communication of values. The Kothari Commission with its accent on education for national development, includes among the functions of higher education, cultivation of right interest, attitudes and moral and intellectual values.

The inseparable link between education and values is evident in the nature and aim of education. A sound general education should be able to inculcate certain lasting values in the minds of students so that they, in turn, would put them in practice in actual life situations. If this does not take place, then education should be considered to have failed in its real function.

It is regrettable that modern education seems to have failed to produce responsible citizens who help root out social maladies. Rather it has produced men and women stuffed with knowledge and information but bereft of any moral or spiritual values. If the dowry system has been prevalent in our country for a very long time, the adverse effects of this evil system have been intensified by the educated. It is common knowledge that higher the educational qualification, higher the demand for dowry. If the politicians are blamed for corruption in our country, are not the so-called educated people in various walks of life, more corrupt in their practices? Even some educational institutions are not inculpable. Many seem to function as business houses. The educated have become

[3]M.K. Gandhi, *True Education* (Ahmedabad: Navajivan Publishing House, 1962), p.129.

better exploiters and perpetrators of crimes in society. There seems to be something wrong somewhere.

Modern education has failed to teach the students the real meaning and purpose in life. If life has meaning beyond the simple expedience of earning money for physical necessities and luxuries, then an understanding of that meaning is an essential equipment for a full human life. In this context, a proper value-oriented education becomes imperative. Through such an education, the students should be trained to discover their potentials and talents and to make right decisions, so that, when they are placed in difficult situations, they would think critically and resist pressures to do wrong.

The challenges are great. Our country needs men and women of vocation, and those who possess an integrated personality, a harmonious blend of sound body, sane mind, good heart and strong will. Our colleges need not produce so much 'specialists' as cultured men with a speciality. Their first task should be really to educate persons and not simply to teach subjects. But their responsibility is also to reform society indirectly through the young people who throng their portals. Truly, then, there would be a social revolution. Miller's vision of a college, "to mould character, to send out men into the world with their whole being so developed that when truth comes before them they will love it, that when duty comes to them they will do it. In all questions for themselves, for others or for the community, it will be their instinctive tendency to form decisions not according to their own convenience but according to the highest principles which they see to be applicable to the case in hand,"[4] would, then, become a reality.

For discussion

1. Consider the relevance of John Anderson's view of education.

2. Attempt a comparison of Anderson's and Miller's approaches to education.

3. Do you think that you, as an individual, or your college measure up to the expectations of Miller, particularly with regard to his vision of a college? Discuss the ethical thrust of his statement.

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[4]O.K. Cheuy, *Dr. William Miller* (Madras: CLS, 1924), pp.77-78.

WORK, FAMILY AND FAITH:REWEAVING OUR VALUES

W.J. Everett

"Do you work?" the stranger asked her. To which a question was returned, "Do you mean for pay? Outside the home?" For some people it would be obvious that 'work' means paid employment outside the home. But the question is hardly meaningful for the rural farm families where the family itself is the productive work unit. Today the meaning of work is changing profoundly all over the world. Not only is the workplace changing but so is its relation to families and homes. All of these transformations involve deeply held moral and religious values. In some ways these values propel the change, in other cases they resist them mightily.

For most urban people work is quite separate from the family. Balancing the demands of job and career with those of home, spouse, and family is quite an act, especially when we add commitments to community and religious organizations. We are tightrope walkers whose balance weights are supported on a long and slender pole. How we hold the two in balance is indeed a matter of faith — of our most basic values, loyalties, and perspectives on life. Questions of work and family strike at the deepest levels of the emotional commitments which energize and guide our lives. The way we balance work and family is one of the most vivid expressions of our faith.

Even those whose work and family are intertwined face deep dilemmas. Farm families and small family businesses also seek ways to respond to dramatic changes in the economy, new tax laws, and tensions between work demands and the needs of family members. Farm families are perhaps most conscious of a new pervasive concern that affects us all — the relation of work and family life to the environment.

The way we work all week and the way we act in families affect not only the natural environment but the political one as well. When we are drained by workplace stress and family tensions we can scarcely support the religious groups, voluntary associations and public organizations that deal with the common good. When we learn defeat and subordination at work we can hardly exercise independent criticism in the public sphere. When family fragmentation robs us of our basic self-esteem and trust we are hardly encouraged to risk ourselves in public action against large institutions. When our work life excludes open communication about

alternatives we have trouble developing the skills and attitudes necessary for preservation of public life in a democratic republic.

All of these effects of changes in work — on family, environment, and public life — drive us back to questions of basic values. Moreover, this question of 'values' is not a clean, neat, antiseptic and rational discussion. It is not unemotional. It is ultimately a question of the ground for having and pursuing values as well as for living in the face of their ambiguity and our failures. It is a question of our *faith*.

Here, faith means *a trustworthy relationship*. Faith in this sense is the powerful field of relationships that holds us up in life. Unless we lift up these often competing and obscure relationship ideals we cannot get to the task of knitting together our work and family life in a way that respects our environment and advances our public activity.

These tensions appear in people's lives in a number of ways. There are urban professional couples among whom both spouses pursue separate careers. They must face the decisions of whether and when to have children. Who should care for them? How should they negotiate and divide household duties? When should they say No to career demands and the expectations of family and relatives?

The value of work, of careers, of family and community differs in all these alternative patterns. The relative power and cultural standing of women and men are different. The ideal relationships to which they aspire differ among these various ways of putting together work and family. Both persons and societies are making deep value decisions in the way they arrange these relationships. This is what I mean when I say that the problems of work and family are faith problems.

In contemporary urban society we often lack the language for talking about these crucial value issues. Moreover, we often have no forum for discussing them with others as we try to help each other find new patterns to deal with these changes — changes our ancestors never could have foreseen. The result is a mute struggle — often between spouses — leading to alienation, violence and even death.

The *oikos* language

In the ancient world *oikos* meant household, or habitat. In the Hebrew of the Bible it was called *bayith* from which we get the *beth* in Bethlehem or Bethel. In that world, as in most traditional societies, the *oikos* was the domestic sphere where people were born, cared for, worked, worshipped, loved, quarrelled and died. It was not only the family world but also its inheritance and patrimony.

The main activities for supporting life were carried on either by children or servants or slaves or relatives under the eye of the parents. Food was grown or captured by the family and prepared by it. Clothes, basic utensils, the house itself and most other essentials of care were created or performed by family members. The household was a productive economic unit, usually with a high degree of self-sufficiency.

In almost every case this household economy was rooted in agriculture. The household and its activity were tied to the land. House and land were passed down from generation to generation. In that system, marriage was the process in which parents found a woman to help their son administer this house and raise a new generation. Individual people were primarily the living manifestations of this *oikos*, this house.

Through this sense of inheritance and ancestry each *oikos* nurtured its own religion — a religion of the hearth. Ancestral claims to land, house, lineage, and loyalties permeated people's lives. It was the centre of their 'faith.'

The *oikos* was also where people usually earned their livelihood, whether by farming, as most did, or through artisan labour. The household was also the workplace. In short, the ancient *oikos* represents a tight integration of family, work, and faith. Many other ancient languages also contain words like *oikos* that express this unity. I am told that the Tamil word *illam* conveys much the same meaning.

In this chapter I want to set forth how this *oikos* changed radically in Western societies, creating enormous changes in work and family life. With this framework we can identify some of the crucial value issues embedded in the decisions we make about how work and family are to be related in our lives. While India has its own unique history and current conditions, I believe our '*oikos* perspective' can help illuminate many of the value issues confronting people in India today. Indian readers should use the following discussion as a torch to light their way rather than as a beacon to determine their path.

The evolution of the *oikos*

To understand how this original *oikos* has broken up, we have to take a quick trip through the centuries since those ancient times. We have done it in terms of the history of the Mediterranean and European cultures, though the dynamics have been widespread in all major cultures.

From this historical vantage point we see that over the centuries, religion became distinct from work and family, while work developed independently of the household. Finally all of these have become quite

separated from the land. Let us take up each one of these developments separately.

Religion separates from the *oikos*

Even in the ancient world religion and faith began to move gradually out of the family, often in response to new spiritual insights by prophetic figures such as the Buddha, the Hebrew prophets and Jesus. Religion was no longer a tribal performance at the family hearth but became an association of believers unrelated by family ties. When the early Christian Church began convening councils of these widespread believers, it called them 'ecumenical' councils — councils of the world *oikos (oikoumene)*. Thus, even in distinguishing itself from family it still carried the signs of its origin in the life of the *oikos*. (Notice how the Buddhist *samgha* also contained this division between religion and family life.)

Work and the *oikos*

Over the centuries work has separated from the rest of the *oikos*, as factory replaced farm and bureaucracy replaced family. But the ancient union of these parts is once again revealed in 'economics.' *Oikos* yielded up 'economics' *(oiko-nomia)* to describe the autonomous markets controlling the workplace.

The many changes in the structure of work are often summarized under two sociological terms: *differentiation* and *rationalization*. These two concepts are helpful baskets for gathering the fallout from these explosive transformations.

The differentiation of work

Work has become an activity distinct from other human activities. Anthropologists tell us that many cultures have no word for wok. There is no such separate activity for them, just as they lack a word for religion or person. In complex urban societies, however, work is different from playing, praying, and personal expression. It has become differentiated from household, family, and land.

This differentiation of work from family also brought new relationships between men and women. The first phase of urban industrial life split the male world of work from the female world of the household. We call this the "split *oikos*" of industrialism. The male heads of households transacted business in the public sphere, while the women, as wives, mothers, and daughters, stayed within the increasingly confined perimeter of the household. Their range of duties still encompassed the household, but the household itself grew smaller and smaller. The first

phase of industrial urbanism meant the increasing restriction of women's role in the total *oikos*.

The second phase has meant a return of women to the workplace, where their increased economic independence has put them on an increasingly equal level with men in the family and in public life. As heavy work is taken over by machinery and the brain work to manage information and technology becomes more important, women move into every area of work outside the home. Just as the *oikos* pattern of industrialism upset the old familial fused *oikos* so the *oikos* pattern of the information age upsets the role patterns of the industrial *oikos*, which split work up according to gender.

The rationalization of work

When the *oikos* split up in industrialization, "doing a job" was no longer part of a whole cultural tradition. It was separated from ties to family, place, religion, and background. Only one value needed to be served in this circumstance — efficiency. Rationalization is the term used to describe the "means ends" thinking that lies behind efficient production. The more clearly you can describe the goal, apart from all other considerations regarding family ties, religious concerns, artistic creativity and the like, the more precisely you can specify the means. Work becomes the achievement of the straight line from here to there, the straight line of means to ends.

What did this rationalization entail? First of all, it meant that work required the substitution of machinery for people. It also entailed specialisation in work. Rationlization produced a process in which people were easily as interdependent as they had been in the household, but without the emotional bonds of family life. In this situation people could develop close ties only with others at their own level in the work force. The less they could identify with the overall organization the more they could identify with their guild, union or profession. To some extent for many workers the union became their family, just as many bosses looked on their firm as their family.

The differentiation of economy from *oikos* also gave to work a new sense of time. Agricultural work lived by the seasons. Work adjusted to the climatic changes which dictated planting, growth, and harvest. This sense of time ruled everything, including religious and family life. Rationalized work, however, ran by the clock.

The family—from star to constellation

The opening up of the *oikos* has also led to critical distinctions

within family life itself. Here, too, we find the emergence of new values, new 'faiths' for approaching our deepest relationships.

This is a practical and often poignant sign of what sociologists call family differentiation. 'Family,' like the ancient *oikos* itself, is no longer a star whose components are all fused together into a single shining orb. Over the past few centuries (a pretty short time for family life) this star has exploded into a giant and expanding constellation. While these planets still share the same gravitational field, they are also wanderers, with orbits that often take them far apart. In order to understand this family system we need to identify these planets that once constituted the star. The four planets we will identify are the subjects of this system. They are the *person*, the *couple*, the *family* and the *household*.

The person

It is hard for us to realize that the idea of 'person' is a modern one. It is only in recent times that we have come to think of individuals as unique, creative beings with certain inalienable rights and powers. In other times people have been known primarily as representatives of the family, which in turn was bound to a particular house and land.

The couple

The second planet of our family system is the couple — husband and wife. This is usually what we think marriage creates. In past eras this couple was scarcely distinct from the children that almost automatically accompanied their union. To be married was to have children.

The need to control conception arose when people no longer needed children for economic survival and knew how to control it. Changes in the nature of work produced the first, changes in medical technology the second.

The differentiation of the couple from the familial star did not result merely from control over conception. It has also been due to the increase in human longevity. As people live longer, the length of time after children "leave the nest" lengthens. Just as contraception enables the couple to exist for a period of time before children come (if they come at all), so health advances enable them to live longer after the children leave.

Moreover, the children leave, not merely because people live longer, but because they are not needed to operate the household. Children in an industrial or technological society are not parts of a productive household. They are consumers. They are an economic burden. They must depart in order to relieve that burden on the parents and form their own household.

Finally, the differentiation of the couple has been promoted by the loss of other sources of friendship outside the home.

The family

Parents and their children usually constitute what we mean by 'family.' Family is constituted by parental bonds. These bonds are so central to our identity that we cannot speak of being a person before we talk about being the child of our parents. Their habits, values, behaviour, language, and faith are embedded in us before we even breathe, much less walk and talk.

Yet for all this we do separate ourselves from them. We do ingest other food than our mother's milk, other advice than our father's aphorisms. Without that separation and independence we will not develop the skills necessary for relating to a multitude of strangers in the public.

This parent-child bond, this family unit, is once again reestablished when the youngsters unite with someone else and have children of their own. Our education, our search for work in another region, and our exposure to all kinds of media almost require that our family will be differentiated from the one we came from and from all other families.

Even the family as a parent-child formation is therefore a specialized set of relationships. Since schooling, work, health care, and even religion are increasingly transmitted through experts outside the family, the central task of the parental bond becomes financial support and emotional nurture. It is these tasks which come to constitute the official responsibilities of family life.

The household

This specialized family life also results from the peculiar meaning of householding in our time. Not only is work leaving the household, so is birth, burial, health care, care of the elderly, manufacture of clothing and utensils, and even food preparation. The *oikos* is exploding into a constellation of related but distinct organizations.

Each household has traditionally been filled with equipment for manufacturing the essentials of life. Today they are increasingly filled with means of entertainment or hobbies and recreation. Even the processing of food is beginning to leave the kitchen.

Separation from the land

With this separation of work from family and family from the ancient gods of the land we entered into an industrial way of life. While this has brought many benefits it has also polluted our natural environ-

ment and torn apart the delicate network of interdependence that binds all living things together on the earth.

In our search to understand this interdependence we turn once again to the ancient *oikos*. We begin to study our 'ecology,' *(oiko-logia)* — the study of the integrated household of life. We are only beginning to deal with the enormous impact of these ecological disruptions which have made possible many personal freedoms and enhanced the well-being of many, though not all, people.

The *oikos* challenge

The features I have described are usually associated with the change from an agricultural to an industrial society. Many people say we are leaving even these forms behind as we move into the technological era. Certainly some different possibilities are opening up. All of these developments portend continuing and unpredictable deep changes. The star is still exploding.

While many changes may be temporary, many others seem to be permanent. The differentiation of work from family, household, and land has become a fundamental assumption for our sense of the *oikos*. Seasons will probably never define us so pervasively again. No longer will the formal and legal relationships of work be like the diffuse and complex interdependency of the family. The experience of personal freedom made possible by the differentiation of the *oikos* will not be yielded up for the security of parental order. We are in a time when the structure of work is changing, but it is not returning to its original form. No longer is everything from faith to work contained in the *oikos* administered by the father's family.

With the *oikos* language we can now talk about a 'fused' *oikos* in which all the parts are one structure of life. We can talk about a 'tight' *oikos*, in which perhaps only religion exists separately from the rest of the parts. Or we can talk about an 'open' *oikos* in which the basic parts are distinguished from each other, creating a rich and often frightening variety of ways people can link together. When we looked at the impact of industrialism we described the "split *oikos*" which divides men and women between the public and private spheres. And finally, we can talk about a fragmented *oikos* in which the parts are so separated that people can no longer link them together in a meaningful way. Indeed, the conflicts among the parts can destroy their lives.

The type of *oikos* pattern we long for lies at the heart of our real faith and our ultimate values. Here I have only laid out a language for talking about these vital choices and the kinds of alternatives we face today. We can see that the fused or tight *oikos* values and intense family

ties, usually within a patriarchal form of authority. Family loyalty, obedience to elders, sharing within the family and holding family, work, property and land together are critical values. In this *oikos,* as well as in the "split *oikos*", roles are assigned largely on the basis of gender and age. In the open *oikos,* personal autonomy, civil rights, role assignment based on ability, honest contracts, self-expression and capacity for reasoned argument become crucial values. Weaving together the disparate values cultivated by these different *oikos* patterns constitutes the tapestry of our life.

Oikos symbolizes our sense that work, family, faith and our environment are all knit together. It is a symbol of the new patterns of integration we need to forge in our own time as persons and as a society. We do not know what patterns will crystallize in these enormous changes, but the way work is related to family and faith will be deeply shaped by the faith images of the *oikos* which we cultivate in our lives today.

Each society confronts the problem of deciding who should be responsible for maintaining the conditions of an adequate *oikos.* Is it the proper function of governments? Of corporations and unions? Of religions? What combination of these institutions? Who should provide for child care? Adequate family incomes? Health care? Meaningful work? All of these questions erupt in the wake of an *oikos* which has split apart. These questions of public policy and personal faith have been fired in the glow of the exploding *oikos* star.

For discussion

1. How did your grandparents put together their *oikos*? How has their 'faith' helped or hindered you in putting together your own today?

2. How would you describe your own *oikos*? How has your own *oikos* changed in the course of your life? Are you at a point of construction, consolidation or dissolution of an *oikos* pattern?

3. What are the points of balance or imbalance in your own *oikos*?

4. What are the key values promoted in your *oikos*?

5. Where are the points of greatest stress in your *oikos* and where are those of greatest strength and value?

6. What role do religious organizations play in the way you construct your faith and organize your *oikos*? Is there a particularly religious form for family organization?

7. How separate is your workplace from your household?

8. What boundaries do you draw between your work life and family life? Why?

9. Would you like your work place to be more familial or less familial in the way it operates?

10. How could the impact of unemployment on family life be lessened?

11. What is the geography of your *oikos*? How does your *oikos* pattern affect the land and wider natural environment?

WOMEN IN A CHANGING SOCIETY

Nancy David

Thirty years after the United Nations first announced its commitment to equality between men and women in its charter of 1945, concern over the continuing unequal status of women led to the declaration of 1975 as International Women's Year. For the first time in history the eyes of the world were focussed on the so-called "weaker sex" which by virtue of an accident of birth performed two thirds of the world's work. And yet it received only a tenth of the world's income and owned less than a hundredth of its property. Women, with the exception of a few, still live in cultural chains, familial fetters and suffer legal, political, social and economic discrimination. *The Report on the State of the World* highlights the equal participation of women as of men as one of the essential conditions for the successful development of a country. Ingersoll once said "there will never be a generation of great men until there has been a generation of free women and free mothers."

Prior to the Vedic age (before 1000 BC) — the earliest period in Indian history — the relationship between the sexes was one of reciprocity in which rights and obligations were balanced. The trend however, began to change, with the appearance of the Aryans and their policy of political expansion. Society, militant as it was, became increasingly patriarchal. The birth of a son came to be more valued than that of a daughter. The woman gradually began taking a second place. Vedic studies became professionalised and women's access to knowledge was restricted. This was the first sign of inequality between the sexes.

With respect to familial matters, the woman's marriageable age got reduced, a factor which very much contributed to her secondary status. She gradually lost most of her rights and the climax to her servility to man came in the form of *sati*, when a woman had to immolate herself in the funeral pyre of her husband. Only thus could she prove to be a paragon of virtue.

Such was the situation in India for many decades. It was only with the British rule and the introduction of Western liberalism that traditional customs and beliefs came to be reexamined. The Indian Independence Movement also paved the way for a greater participation by women on the national front. After Independence, the constitutional guarantee of equality provided a framework for an ideal state where men and women

would enjoy equal rights. And yet, despite these provisions, the woman's role in society did not change very much. Traditional ideas surrounding her were too rigid and deeply embedded to allow for radical change. The fetters that kept her imprisoned could not be broken.

The family as a unit is one of the most vital institutions in Indian society. It upholds the woman's status. Her contributions in each walk of life are on par with or more than those of the male members of the family. And yet, her worth is not measured on these lines, but in terms of her ability to produce male children through whom patrilineality could be perpetuated. A woman in India is no more than a daughter, a wife or a mother. Sentenced to stereotypical roles, she can never be an individual with an identity of her own. She is owned by another and her master makes or breaks her life.

A woman, on the threshold of marriage, has many an insult and burden to bear. At the outset, her dignity suffers a blow because she often has to pay a 'dowry' to get a 'husband'. A girl is accepted and assessed in the family into which she gets married, not for what she is, but for what she brings with her. To further aggravate the situation, she often suffers ill-treatment at the hands of the in-laws, which in turn makes her an embittered mother-in-law in the long run.

Much of what the woman undergoes constitutes a silent suffering. She is voiceless in a society which inflicts many burdens on her. Her oppression within the familial unit has never emerged as a social issue of gravity because of the outweighing importance accorded to the institution of marriage. The facade of familial prestige prevents the woman from seeking legal help or resorting to social therapy. It is only when the oppression inflicted on her takes extreme forms like physical injury and death that it catches the public eye. The withdrawal of support from the two families—the father's and the husband's — results in perhaps the most tragic of situations. Having nowhere to go, she often ends up taking her own life.

The family, an institution supposed to safeguard and protect womanhood, thus becomes a diabolical force. It denies the woman of the very rights it stands for. This is the irony of it all.

The survival of the fittest is one of the basic laws of evolution in nature. It is often a cruel and ruthless code by which the strong get stronger and the weak weaker. One therefore finds a predominance of crimes directed against the woman in any society — especially in the Indian. Rape, prostitution, pornography and such are prevalent at alarmingly high rates in the country. The crime of rape is estimated to be equal to that of murder, the victim often having to resort to prostitution as the only avenue of

escape. In political and elite circles too, the woman gets exploited. Business groups are known to supply girls to those in high places, a phenomenon which is widely prevalent.

The inadequacy of the legal system to keep pace with changing needs is the basic cause for a woman's inferior status. The Indian Constitution failed to establish a common civil code and to this day, individual laws of different communities remain operative. With respect to marriage, monogamy may be established by law, but bigamy is still in existence. It can be proved only when the second marriage is conducted with proper ceremonies. If a private arrangement, it goes unnoticed.

Under the Dowry Prohibition Act, the provision regarding gifts thwarts the very object of enforcing the act, for the dowry is in itself given in the form of gifts. The policy of making the offence noncognizable is thus defeated. In 1984, a legislation was introduced for setting up family courts. There is one in Tamil Nadu and few others in the country, indicating that the law has hardly been enforced. Instances such as these prove that the legal structure in India has been incompetent in promoting the fundamental rights of women. Merely reforming legal procedures and passing laws which will never be enforced,will surely not solve any problem. What is required is a reorientation of the thinking and attitudes of people concerned with such matters.

Legally, therefore, the woman has much to be bitter about. She is the underdog in society, a factor on which even the government often capitalises. Many of its policies are indirectly directed against her. Take for instance, family planning programmes. Birth control measures pose serious health hazards to women, because of the many side effects involved. Contraception is however far simpler and safer for men. So why does the population control policy focus primarily on women? Why ~~other~~ them because she is the easier target, and the ideal scapegoat?

Amniocentesis is a scientific technique used widely for the detection of genetic deformities. Today, however, it has become popular in India for the detection of the sex of the foetus. An estimate reveals that between 1978 and 1983, around 78,000 female foetuses were aborted after the sex determination test. Does the prevention of the birth of girls really solve any problem? Does it not aggravate the already awry sex ratio?

On the economic front, the participation of women as a labour force in the production process of the country, declined after 1901. This was due to technological changes, increased foreign competition, shift in priorities with respect to market demand, and the decline of cottage industries. In 1971, there was a drastic dip in the rate of female labour participation, which improved very slightly in 1981. Statistics reveal a con-

tinued concentration of women in the agricultural sector during this particular decade. Outside this sector, the highest concentration of the female labour force has proved to be in the areas of food products, tobacco, beverages and textiles. Women are also employed in the health and sanitation and education departments.

The female nonagricultural work force is heavily concentrated in household production too. Seventy-three percent women are in the unorganised sector which implies insecure and unprotected employment, labour-intensive output with low-value production, and long hours of unrewarded work. The absence of diversification makes the woman worker vulnerable to retrenchment when automation occurs in specific operations. In the administrative field the woman faces a different problem. Her representation has been woefully small because it has been a norm to supersede her in the recruitment of candidates. Men are preferred, more often than not. For every 100 men, there are only 2 High Court women judges, 9 IAS officers, I IPS officer, and 5 candidates in the Indian Educational Service.

The conditions of work for women in the unorganised sector are far from satisfactory. Many productive activities in agricultural households are disguised under the label of "domestic work," and hence pass unnoticed. Labourers are discriminated against based on sex distinctions, women earning far less than men. This is the case in the areas of harvesting, weeding, reaping and other such activities. Furthermore, the nature of women's responsibilities gives them very little leisure for rest and improvement of skills. Because of rapid deforestation in the country, the female member of a family has to work harder to secure wood for fuel, often having to walk over 10 km.

In the nonagricultural unorganised sector, women are prepared to take up work at any wage offered because they aim to make up for a deficit in the low family income. They therefore get exploited in a field of work which is unassisted by union activities or tax and labour laws.

Though the literacy rate of the female labour force is very low, higher education for women has been advancing at a much faster pace than that for men. And yet many doors remain shut when they seek jobs. Employees may be of the opinion that they are sincere, dependable and hard working but statistics prove their rate of employment to be low. The *Employment Review 1985* indicates that there are 19.2 percent female undergraduates without jobs, as against 16.8 percent male undergraduates. At the graduate and postgraduate levels, male unemployment stands at 12.3 percent while female at 15.1 percent.

The existence of unutilised educated woman power is due to certain inevitable factors. Even when job opportunities are available, women have to consider issues of social prestige and domestic responsibilities. Whatever the support services available, the consequence of the dual role played at home and in the office, is the loss of promotional opportunities in careers. Why should women be penalised in their work for performing an important social role? Why are gender-based roles so rigid that men do not share in family maintenance even though women do much of the man's work? If a woman is ambitious she is considered aggressive, masculine and stepping beyond certain clear-cut bounds. Under such trying conditions, therefore, women tend to play down their ambitions and keep a low profile. They are also forced to surrender most of the benefits derived from their hard labour. According to a study, 77 percent of the highly educated working women turn over most of their income to the husband or to the mother-in-law.

In the field of science and technology too, women suffer a secondary status. New agricultural technology in the form of High Yielding Varieties has increased wage rates and the quantum of employment, because of double cropping. Mechanisation however, has taken over in large farms to the detriment of female labourers.

The enumeration of social and economic challenges that confront the Indian woman would be incomplete if no solutions were offered to the problems involved. Equality between sexes is not the practical and feasible remedy. Gender inequalities are inherent and occur because of biological and physical differences. What society should do is utilise these differences in a positive way. The laws of evolution have assigned the man and the woman their own roles. They should capitalise on this and use their individual skills to the full. Society, in turn, should recognise these endeavours and reward each for what he or she does.

Equality and freedom should thus be understood in the context of a society's culture and tradition. A society like ours, that strives to uphold the existing structural fabric, should try to minimise discrimination and exploitation, rather than pretend to establish equal rights between men and women. Such an approach would indirectly help sustain a workable rapport between the sexes, without impairing the emotional and intellectual privileges enjoyed by them.

It would be wrong to assume that there has been no change in the status of women in India particularly over the past 40 years. After Independence, social and economic changes have manifested themselves through planned development. The country's planning commission has defined three major areas in which they have paid special attention to

women's development: education, social welfare and health. The fifth plan gives the highest priority to this issue. After the submission of the report entitled "Toward Equality" by the Committee on the Status of Women in India 1971, there occurred a change in the policy of reviewing women as targets for welfare policies, to a recognition of them as participants in development. The sixth plan, for the first time, comprised a chapter "A Fair Deal for Women" on the suggestion of the United Nation's World Plan of Action.

Women too should contribute to improving their lot. They should unite and help create an awareness of the need for change and the means by which to go about it. This is particularly necessary since the woman's enemy is the woman herself. An Indian woman may embody the angelic attributes of sacrifice, endurance, love, patience and compassion as a mother figure. She however becomes cold-blooded and a ruthless oppressor as the mother-in-law. These two antithetical personalities pose innumerable problems to Indian womanhood. The imperative need is to not only work out the man-woman relationship but to also create an attitudinal change among women and to promote better interaction between them. The introduction of Women's Studies for both men and women students at the higher educational levels will in the long run erase antagonisms and create justice and dignity for all.

For discussion

1. Could you identify a few forms of gender injustice you come across in your daily life? What remedial measures would you suggest?

2. Prioritize the rights that our society should allow its women. Discuss the relative importance of each.

3. Reconstruct the image of woman from a novel you read or a movie you saw last and analyse it from an ethical point of view.

4. Against the background of the series of incidents of female infanticide in Tamil Nadu, examine the statement "The enemy of woman is woman herself."

AN ISSUE OF SEXUAL ABERRATION

J.T.K. Daniel

Any discussion on human sexuality demands an unusual degree of sensitivity, for it either affirms or threatens our very identity. The mass media have commercialised and sensationalised human sexuality, reducing it to a narrow and perverted notion of sheer genitality. Sexuality is fundamental to our humanness and sexual attraction is quite natural and normal. Yet sex is not just another biological need. Some pretend to run away from it. Often, this unhealthy attitude to sex is accompanied by hidden compromises. Chastity is neither ignorance of nor insensitiveness to the sexual reality. In value education it is considered important that the youth gain required knowledge of human sexual behaviour through good books and dialogue with competent persons. We shall take up a sexually deviant behaviour, known as homosexuality, in this chapter.

What is homosexuality?

Homosexuality is a sexual propensity for persons of one's own sex (Greek *homos*, one and the same) and it is found in both men and women. The male homosexual acts are described as paederasty and the female homosexual acts as lesbianism or sapphism. We shall not make any distinction between these two types of homosexualism throughout this chapter unless otherwise stated. In some countries homosexual acts are criminal offences, but often only in the case of male homosexuals. After a detailed study of this problem in the primitive tribes and civilizations D.J. West writes, "The problem of homosexuality is as old as humanity and occurs as much in advanced civilizations as it does in primitive cultures."[1] Certain cultures have, however, tolerated or even institutionalized homosexuality; others have not considered seriously this problem but have naively ignored it.

Biologically speaking, homosexual behaviour is not uncommon among the animals. In certain animal experiments, the male rats, which were separated from the female rats for a long time, turned out to be homosexuals and showed little interest in the female rats when they were allowed to join them. West quotes Dr.Breach, an expert on animal

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[1]D.J.West, *Homosexuality* (London: Duckworth, 1955), p.5.

sexuality, who claims that to describe homosexuality as 'unnatural' behaviour is "to depart from strict accuracy."[2]

The prevalence of homosexuality

Often people think rather uncritically that all homosexuals are effeminate, sex-hungry perverts, promiscuous and found only in certain related professions. According to Alfred Kinsey Reports, which apply mainly to the USA, (i) 37 percent of the male population has some homosexual experience between the beginning of adolescence and old age; (ii) 13 percent of American males have more homosexual experience for at least three years between the ages of 16 and 35; (iii) 10 percent of males are more or less exclusively homosexuals for three or more years, and (iv) 4 percent are exclusively homosexuals through their lives.[3] This study of human sexuality underscores that every human being can be placed somewhere on a spectrum between 0 (an exclusively heterosexual bias) and 100 (an exclusively homosexual bias). *The Wolfenden Report 1957* reads, "According to the psychoanalytic school, a homosexual component (sometimes conscious, often not) exists in everybody; and if this is correct homosexuality, in this sense, is universal."[4]

There are several factors which contribute to a person being homosexual for a season. Segregation in a single sex environment, such as the army, prison, boarding schools, college hostels and religious communities as well as disappointment in love or neurotic fears of sex and guilt could be the causes of a temporary homosexual tendency in a person. Schofield writes, "Homosexual behaviour when young is neither a sign that a boy will grow up to be a homosexual; nor is the absence of such behaviour a guarantee that a boy will make successful heterosexual adjustment."[5]

Complications of the problem

Michael Schofield studies the sociological aspect of the problem, comparing sex groups of men. He does not think that the problem of homosexuality affects as such the development of personality greatly; but the traditional social ethos or external factors affect a homosexual. He establishes his theory as follows:

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[2] *Ibid.*, p.11.

[3] *Proceedings of the General Assembly of the Presbyterian Church of New Zealand 1968*, p.167 (a). (also in *The Wolfenden Report*).

[4] *Report on Homosexual offences and Prostitution*, p.11.

[5] M. Schofield, *Sociological aspects of Homosexuality* (London: Longmans, 1965), p.135.

> Homosexuality is a condition which in itself has only minor effects upon the development of the personality. But the attitudes, not of the homosexual, but of other people towards this condition create a stress situation which can have a profound effect upon personality development and can lead to *character deterioration* of a kind which prohibits effective integration with the community.[6]

The Wolfenden Report comes to the conclusion that homosexuality is not an illness. Schofield argues, "if homosexuality itself is a pathological condition" then it is likely to constitute a "far bigger health problem than cancer."[7] Though in many cases of homosexuality, the people are promiscuous, Schofield thinks that the ostracism on the homosexuals is the main cause of promiscuity. He further adds, "some homosexuals do develop relationship as loyal and as closely knit as the best kind of marriage."[8] People often think that the adults seduce the juveniles in homosexual actions. Schofield does not think that it is so always: "the boy is often the initiator and many of the PC (Paedophiliacs/Convicted) men were relatively inexperienced."[9] These various aspects of the problem complicate the issue and one has to examine thoroughly the various issues involved before one offers any ethical solution to the problem. A mere empirical approach will not do.

The role of law

Can the problem of homosexuality be adequately met by promulgating criminal laws as they have done in many countries? Can law change a homosexual into a heterosexual? Despite such general questions, we must agree with Thielickie that prosecutions would be necessary for the following cases:

(1) Acts committed against minors and dependents
(2) Acts committed against public decency (scandal)
(3) The mercenary exploitation of homosexuality[10]

The Griffin Report 1956 and *The Wolfenden Report 1957* have also supported this position. According to *The Wolfenden Report* homosexualism is not "cognizable by law unless it infringed public order and decency, offended or injured the citizen, or exploited or corrupted others, particularly the young and persons in special positions of dependence."[11]

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[6] *Ibid.*, p.203.
[7] *Ibid.*, p.150.
[8] *Ibid.*, p.112.
[9] *Ibid.*, p.60.
[10] H. Thielickie, *The Ethics of Sex* (New York: Harper and Row, 1964), p.292.
[11] J. Macquarrie (ed.), *A Dictionary of Christian Ethics* (London: SCM, 1967), p.153.

Homosexuality and AIDS

One of the contemporary health hazards in the world is AIDS. In the Western countries it is reported predominantly among homosexual men. The people most frequently infected by AIDS have been homosexuals, haemophiliacs, drug abusers and the sexual partners of members of each of these groups. At the end of December 1986, of the 610 reported cases of AIDS, 593 were men of whom 538 were classified as homosexual or bisexual.[12] The infection spreads rapidly among the homosexuals for two reasons: first, many homosexuals have anal intercourse with their partners, rupturing the skin of the receptive partner and consequently transmit the infection. Secondly, the homosexuals have invariably several sexual partners, though homosexuality as such does not generate the virus, the level of HIV infection among the gay community is high. It is to be underscored that unless people learn to take seriously the danger that AIDS spreads through homosexual contact and prostitution and change their sexual behaviour so as to have sex with only one faithful partner within the marriage covenant, the prospects of the future generation could be bleak.

Our response

Can we change the homosexuals by clear teaching and exhortation rather than by law? Following West, H.K. Jones thinks exhortations could do more harm than good in some cases and adds "simple exhortation to change is a very impracticable solution to the problem of homosexuality, reflecting a complete lack of understanding of the deep-rooted nature of sexual inversion."[13] What then, should be our attitude to homosexuality? Dr. Fisher, Archbishop of Canterbury, reports, "let it be understood that homosexual indulgence is a shameful vice and a grievous sin from which deliverance is to be sought by every means."[14] The Roman Catholic Church never approves of any sexual activity other than that which takes place between a man and his wife for the purpose of procreating children; and so envisages homosexuality as sin.

Our attitude to any issue of sexual aberration need not be punitive but corrective. In the context of the growing menace of AIDS, proper teaching on ethical issues is of paramount importance. Undoubtedly,

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[12]Quoted from the figures supplied by the Communicable Diseases Surveillance Centre (2 January, 1987) in Mc Cloughry and Corol Bebawi, *AIDS: A Christian Response* (UK: Grove books, 1987) p.9.

[13] J. Kimball-Jones, *Towards a Christian Understanding of the Problem of Homosexuals* (London: SCM, 1967), p.106.

[14] West, *op.cit.*, p.42.

homosexual acts are in violation of God's creative intent: "a man will leave his father and mother and be united to *his wife*, and they become one flesh."[15] The first man expresses his joy in a love poem when he saw his life partner: "This is now bone of my bones / and flesh of my flesh."[16] Can this be ever uttered sensibly by the homosexuals? The above texts indicate clearly that the complementarity of male and female genital organs is an expression of reunion not only at the physical level but also at the spiritual one.[17] Karl Barth is right in his observation that seeking one's humanity in a homosexual relationship is "self-worship, perversion and idolatry."[18]

Conclusion

Psychology today confirms that men and women are not only different physically, but also temperamentally and emotionally with differing perspectives and sensitivities. In other words, they complete each other. The act of sex, which brings the closest union between man and woman, is treated in the scripture as being holy, the true expression of mutual love. Sex gives men and women opportunity to be co-creators with God. Sex, therefore, besides being an expression of love between man and woman, is also a serious responsibility because of its fruit, namely, children. This dual function of sex could be appropriate and legitimate only in a lasting relationship of self-gift, the commitment of marriage. Sex, outside this exclusive relationship, is expressly forbidden. The moral law strongly condemns lust and any other misuse of sex. But it is seen as something beautiful in the context of love and commitment.

The present attitudes to sex which value education should combat are: that sex is something dirty and objectionable, that sex can be indulged in only for pleasure or money (prostitution), that sex is permissible outside a permanent committed relationship (premarital and extramarital sex), and that sex is legitimate without first responsibly considering the consequences (unplanned parenthood). All these attitudes have their basis in man's selfishness or self-centeredness. In short, when the vertical relationship between a human being and the Creator is strained, it only leads to perversion and suffering in the horizontal relationship of man with his neighbour.

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[15] *Genesis* 2:24.

[16] *Genesis* 2:23 a.

[17] J.W.R. Stott, "Homosexual Partnership" in *Issues Facing Christians Today* (UK: Marshalls, 1984), p.311.

[18] J.B. Nelson, "Homosexuality" in J. Macquarrie, and J. Childress (eds.), A *New Dictionary of Christian Ethics* (London:SCM, 1986), p.273.

For discussion

1. What measures can be adopted by an academic community to deal with homosexuality?

2. AIDS is largely a consequence of sexual aberration. Consider this position in the light of the present chapter and also in that of the one on AIDS.

3. Do you think that the media have been projecting the wrong attitudes to sex mentioned in this chapter? If yes, can you recall some recent examples of such projection?

4. The *Kama Sutra* does not disapprove of homosexuality. Could you find out how the classical literature in your mother tongue deals with it?

DILEMMAS IN INDIAN ECONOMIC DEVELOPMENT

C.T.Kurien

Now we may look back and make an assessment of the progress that the country has made after its Independence during the past forty-three years and also consider the course that it is likely to take in the immediate years ahead. A paragraph in the Third Plan document gave the following description of the economic conditions in the country when it became free:

> When Independence came, India had a slender industrial base. Millions of her rural people suffered under the weight of a traditional agrarian structure. A long period of economic stagnation, against the background of increasing pressure of population followed by the burdens of the Second World War, had weakened the Indian economy. There was widespread poverty and want. The partition of the country had uprooted millions of people and dislocated economic life. Productivity in agriculture and industry stood at a low level. In relation to needs, the available domestic savings were altogether meagre. The promise of freedom could only be redeemed if the economic foundations were greatly strengthened... It was essential to rebuild the rural economy, to lay the foundation of industrial and scientific progress, and to expand education and other social services... Planned development was the means of securing, with utmost speed possible, a high rate of growth, reconstructing the institutions of economic and social life and harnessing the energies of the people to the tasks of national development.

How far have these expectations been fulfilled? On one aspect the evidence is quite clear and has been summarised by the Sixth Plan document: "One of the most significant achievements of our development policy after Independence has been the fact that the handicap of stagnation was overcome and the process of growth initiated." A comparison of some of the key indicators of growth before and after Independence brings this out more clearly.

Annual average growth rate (percentages)

	1900-1950	1950-1985
Net National Product	1.2	3.7
Per capita NNP	0.2	1.4
Agriculture	0.3	2.9
Industry	2.0	6.4

The performance of the economy in terms of food production deserves special mention. The foodgrain production in the early 1950s was in the neighbourhood of 50 million tonnes. It has now crossed 150

million tonnes—a threefold increase in a little over three decades which is a major achievement indeed. In the industrial sphere too there have been some notable achievements. Apart from accelerated growth, the industrial economy has shown considerable diversification and sophistication. The country has become self-reliant in regard to practically all consumer goods and has also built up a steady export market for some of them. As for the capital goods sector, again, considerable progress has been made.

The significance of the post-Independence performance will become more evident when it is noted that it was a period of rapid population growth as against the rather slow increase in population during the first half of the century. Although an annual growth rate of a little less than 1.5 percent in per capita NNP certainly cannot be treated as a major achievement or even adequate in itself, the fact that this has happened when the rate of growth of population was over 2.25 percent is certainly worth noting. In contrast, the early fifty years of the sluggish increase in population saw hardly any increase in per capita NNP.

The growth in output achieved over the Plan periods was accompanied by notable structural shifts in the composition of output. Although agriculture continues to be the major production sector, its share in gross domestic product has declined from an approximate 60 percent in the early 1950s to less than 40 percent in the early 1980s with the share of industry (mining, manufacturing and construction) rising, from less than 15 percent to over 20 percent, during the same period. The intersectoral shift in the workforce, however, has been but marginal.

Along with overcoming stagnation, the economy's capacity to grow has also been established. At the commencement of planning in the early 1950s, the economy was operating at very low levels of saving and investment below 10 percent of gross domestic product. Low levels of income, savings and capital formation were considered at that time to constitute "the vicious circle of poverty" from which underdeveloped countries could escape only with substantial foreign resources or a successful domestic effort to step up the rate of savings. In fact, the long-term development strategy of the First Five Year Plan was to raise the marginal rate of savings to 50 percent by mid 1970s so that the average rate of savings would turn out to be 15 percent of gross domestic product. The task was then considered Herculean.

But what was thought difficult, if not possible, was achieved almost effortlessly. By the mid seventies the rate of savings crossed 20 percent and reached the record level of close to 25 percent in 1978-79. It has come down a little subsequently and the Seventh Plan document esti-

mated it to be 23.1 percent in 1984-85 and expected it to be raised to 24.3 percent by 1989-90.

All these are interpreted as evidences of the maturing of the economy during the past four decades.

But aggregate analysis of this kind hides as much as it reveals. To show this we may consider the changes that have come about in the financial structure of the economy a little more closely. While in accounting terms (following the standard terminology of economists) the savings are *national* savings or the savings of the *economy*, a more careful scrutiny will show that these descriptions are not only inaccurate, but quite misleading also. The fact of the matter is that what is designated as national savings are privately owned by a very small proportion of the total population. It is well known that almost three fourths of the domestic savings are accounted for by the household sector. But seldom is it asked what proportion of the households in the country contributes these savings. There are no official estimates about it, and so only informed inferences are possible. It is admitted that even according to official estimates, around 40 percent of the population comes below the poverty line, and it may be reasonable to assume that another 20 or 30 percent of the population can only be marginally above it. On this basis it may not be wrong to infer that some 70 to 75 percent of the population or households may not be savers at all. In fact, estimates based on some nationwide sample surveys have shown that the share of the bottom 70 percent was only a little over 6 percent, while that of the top 10 percent was about 70 percent of the savings of the household sector. In other words, what is commonly interpreted as the increase in the savings of the *national economy* is little more than the growing accumulation of a very small minority of the population.

What about the majority of the people? What has happened to their conditions of living during the past four decades? Official estimates are that the percentage of people below the poverty line is "as low as" 37. The validity of this claim has been contested by many scholars, but let us accept it as it is, but note that it really means that close to 300 million people in the country do not even have a nutritionally adequate diet (leave alone other basic necessities of life) four decades after Independence.

We must look for more detailed information about the conditions of the majority of the people. Agriculture still provides occupation for about 68 percent of the workforce in the country. Of this, some 40 percent (or around 26 percent of the total workforce) are agricultural labourers, i.e., those who make the major part of their earnings as wage workers on

other people's land. In fact, a rapid growth in the proportion of wage workers has been a major change that has come about since Independence, especially during the past two decades.

A related phenomenon has been a decline in the employment in household industries. Household industries accounted for as high as 55.1 percent of workers in the manufacturing sector in 1961, but by 1981 the percentage came down to 32.2. As a percentage of total nonagricultural employment the share of household industries declined from 17.3 to 10.7 during those two decades.

That in a predominantly agrarian economy, the kind of changes referred to above are related to the ownership and control over land is obvious. Among cultivators, the number of those who own less than one hectare of land has increased from a little less than 40 percent in the mid-fifties to over 55 percent in the early eighties. How precarious the situation of such marginal farmers is, especially as drought conditions become a frequent recurring phenomenon, does not require elaboration.

The picture regarding the conditions of the people now emerges from the information above. About half of the cultivators who constitute 42 percent of the workforce operate less than one hectare of land and must make a living substantially from what it would yield; 25 percent of the workforce consists of agricultural labourers with little assurance of daily work and with work opportunities limited to the seasonal variations in agriculture. The number and proportion of wage workers is increasing, but wage labour is primarily of a casual nature. All told, at least 50 percent of the members of the workforce and their families must be considered to be in a situation where the level of their living must be abysmally low and the mode of living insecure and precarious.

This is a very sad commentary on the process of planned economic development that the country has pursued, professedly to make available to all people opportunities for a richer and more varied life, as the First Five Year Plan document had proclaimed. What is more disturbing is that this happened not because good policies were badly implemented. It has resulted from the kind of policies we have pursued within the kind of institutional structure we have been eager to retain. We shall illustrate this point with special reference to what has been happening in the agricultural sector and the rural economy.

According to official pronouncements in the early years of policy formulation for planned economic development, the economy was to become socialised over time. If socialism connotes, in any sense, greater socialisation of ownership of resources and of the manner of their utilisa-

tion, there has been no move in that direction during the past couple of decades. Indeed, the trend has been in the opposite direction, towards greater privatization of the ownership and use of resources.

One impact of this emphasis on private ownership has been to undermine the position of those who traditionally could not have any claims to ownership of land, particularly the landless agricultural labourers and, more specially, the scheduled castes among them. In the changing ethos of ownership they have also been losing some of the traditional claims and concessions that they were entitled to in the rural social relationships of the past. Traditional rural society was hierarchical but it was also one of mutual obligations even when these were largely to the advantage of the stronger sections. But growing privatization of resources and the commercialization of economic activity have almost completely marginalized the weaker sections, who find increasingly that they have to buy many things which they formerly used to receive in the form of traditional claims and have nothing other than their labour to sell and that frequently there is not much market demand for it either.

Under these circumstances policy measures to increase output have, not surprisingly, tended to favour those who have the resources and influence to have access to them. Public policy at one stage, especially in agriculture, was explicitly designed to be "selective and intensive," either because it was thought necessary as response to a crisis situation or because it was expected that the processes thus started would, in the long run at least, percolate down. Perhaps some downward percolation has taken place. But what is important to note is that in an economic system where resources can be attracted only by resources, even policies made available to everyone, without restrictions, tend to benefit only those who can afford to bid for them.

It would be too simplistic to say on the basis of these considerations that over the three or four decades " the rich have become richer and the poor poorer." In a country as vast and varied as ours where, in addition, there are insurmountable difficulties of identifying and measuring income and assets, it is almost impossible to make any accurate and unambiguous assessment of this issue. But it is possible to arrive at some qualitative judgements about the direction of the changes of the past.

First, if in the pre-Independent period the rural scene was generally stagnant, there has been growth since Independence not in a statistical sense merely; it is also visible to the eye. Agricultural production and productivity have increased, new kinds of implements and production operations have been introduced, roads and motor vehicles are to be seen even in the remote corners, schools and health centres have been

established and electricity has become available. The direct benefits of these may have gone only to a small section of the rural society, but the changes are there for everyone to see.

Second, these changes have been accompanied by a growing privatization and marketization of the rural economy which have deprived many people of their customary claims, but have led the better-off sections to feel that the way to economic prosperity and social progress is through exclusive ownership and commercial operations.

Third, on this basis, the rural economy has become pronouncedly differentiated. At the bottom are those with no resources other than their labour, increasingly deprived of most customary claims, but still bound by many customary obligations (largely in agriculture) and forced to seek a market for their labour in a dominantly buyers' market. Above them are those who have some non-labour resources with which to utilise their labour, whose economic operations, however, are not self-contained because of their growing dependence on the market for goods (both inputs and outputs) and for credit, in which they find their position, on the whole, precarious. This group is within itself differentiated in terms of earnings–ranging from the very low to the considerably high economic environment, production patterns and general outlook. The expectation of most of them is that some day they too will be able to climb the ladder of success although frequently they become the victims of the caprices of the market system and of the economic and social power of those above them. The third group consists of those who rely primarily on the ownership of non-labour resources with which to employ the labour of others, whose objective is essentially to augment their non-labour resources over time and whose operations are governed by this objective. Through the labour market they are linked to the first group and through the product and credit market, to the second as well.

Fourth, the nature of inequality in the rural scene has undergone a transformation. Traditionally, rural inequality was principally a social factor associated with the caste system. This was, no doubt, intermeshed with the economic inequality between those who laboured and those who lived on the labour of others. But as long as the ownership question remained ill-defined or, when defined, not exclusively defended and when the differences in consumption patterns were not qualitatively pronounced, economic inequality was a derivative of social inequality. But the correspondence between social and economic inequality became less visible as the ownership of land went out of the hands of the top caste in many places. Economic inequality *per se* has become more conspicuous with the crucial role of exclusive ownership, the rapid affluence of a sec-

tion of the rural population and the wide variety in consumption patterns. More important still, what was essentially static inequality has become quite dynamic. Those who have command over resources which permit rapid accumulation of more resources are able to increase the gap between groups.

The analysis above was confined to agriculture and the rural areas only for the sake of brevity and convenience of exposition. Within the industrial and urban spheres too the essential features of the change have been the same and, if anything, a little more pronounced because of the higher concentration of resources and economic power and the greater possibilities of asset accumulation and privatization.

Briefly, then, the main feature of the development of the past is that our socio-economic system has become one that can simultaneously generate affluence and poverty—affluence for the few and poverty for the many. This is far more significant than either the rate of growth as such, or the level of poverty. The former gives a misleading impression of what is happening to the people and the latter only partially indicates the actual state of affairs. Growth rate may go up, but with little benefit to most people; the incidence of poverty may come down temporarily, but can shoot up again in the churning process generated by the system against which the vast majority of the people have no protection whatever.

Some of the paradoxical aspects of the situation are already evident. Two years of good harvest in 1984-85 and 1985-86 had led to a 'surplus' of food grains in the country with close to 30 million tonnes of grain being held in public stock, but with millions of people still remaining hungry because of their lack of purchasing power to buy food. In 1987-88, the drought had brought down productive activity, and the piled up surplus tended to be eliminated. But the poorer sections, especially in the rural areas, were the first to be hit by the drought too. Their misery increases because, again, they have neither work nor purchasing power.

Thus, the poorer sections are the first to be adversely affected when economic conditions deteriorate, and the last to benefit when they improve. If these systemic features are not corrected, growth with social justice will not become a reality even in the future in spite of the many efforts being made to modernise the economy and to stimulate growth.

For discussion

1. Why do you think our Five Year Plans were not as effective as they were expected to be?
2. Consider the four judgments, the author arrives at, regarding the direction of change in the agriculture and rural economy sectors.
3. How does R.Mariasingham's chapter corroborate the present author's view that our socio-economic system generates both affluence and poverty at the same time.

POPULATION GROWTH AND DEVELOPMENT

C. Selvaraj

> In a sense today's five billion people represent a triumph of our species. By all measures we have become the dominant animals on the planet. Biologically this is the very definition of success. But there is a dark side to our triumph.
>
> *Paul R. Ehrlich*

The long-term trends discernible in the development experience of the third world countries have clearly established the fact that the population factor has emerged as the single most important determinant in assessing the effectiveness of development strategy aimed at accomplishing equitable growth and welfare in these poor and underdeveloped regions of the world. However, empirical studies which have made in-depth analysis of demographic structure in Less Developed Countries (LDCs) are distinctly divided in terms of their differing perspectives on the issue of whether or not the phase of underdevelopment has been perpetuated by the accelerated growth of population. While a majority of these studies have postulated the impending gloom of Malthusian prophecy,[1] others on the contrary maintain that there is no problem of overpopulation and as such the pessimism of modern day neo-Malthusians such as Paul Ehrlich and Norman Borlaug has been totally unfounded.

The serious development problems in LDCs, such as the growth of urban sprawl, illiteracy, unemployment, food storage, widespread malnutrition, rapid depletion of nonrenewable resources and a deteriorating environment have been held as the direct consequences of excessive growth of population. These and other related issues of population growth have caused significant distortions in the development priorities and ultimately retarded the growth mechanism. Those who subscribe to the thesis that the poverty phenomenon in the LDCs is not linked to the growing size of population but caused primarily by the lack of a development stimulus do not seem to consider the fact that a fundamental prerequisite to the promotion of development in these impoverished economies is the resolution of the basic issues of population problem.

The people problem

No issue is as complex as the rapid rise in the growth of the world population; while it did not reach even the one billion mark until 1830, it

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[1]Malthus (1766-1834), in his *Essay on Population*, predicted that uncontrolled growth of population will, in course of time, result in food shortage.

rose to two billion by 1930, three billion by 1960, four billion by 1970 and a formidable size of five billion by the 1980s. This quantitative expansion in human numbers has brought to light two important and, at the same time, disturbing facts: one is that the time taken for the world's population to rise by a billion has been steadily declining and the other is that the span of time for the world's population to double itself in size has also been narrowing down over the years.

> From the time of Christ it took some 1700 years for earth's population to double. ... Projections now indicate that the population will reach ten billion by 2070 doubling in 82 years.[2]

This is an alarming trend considering the finite endowment of resources to support the earth's population.

The widening inequality between the rich and poor countries in respect of their shares in world population corresponds with the inequitous distribution of the world GNP. The developed and industrialised nations of the world have been enjoying a lion's share of the world GNP obtained through an exploitative international trade and payments system and the small size of their population has been helpful to maintain the high tempo of the development process.

These disparities show that while the poor countries suffer from abject poverty and degradation, the advanced economies, on the other hand, are affluent societies characterised by overconsumption. These two facets of population expansion, namely poverty and high consumption, have the potential to set the scene for total economic and ecological collapse.

The doomsday scenario predicted by the contemporary neo-Malthusians rests mainly upon the vicious relationship that exists between finite endowment of nonrenewable resources and the overpopulation syndrome. The validity of this approach and that of the assumptions on which it is based came under the severe criticism of another group of economists led by Julian Simon who assert that "resources are not really finite in any meaningful sense"and the prediction of the neo-Malthusians has not come true yet.

It may be incorrect to state the population issue merely in terms of numbers, densities, rates or movements. On the contrary, the problems must be stated after considering the qualitative aspects of human life.

Population trends in India

Since the ancient times, India has had the legacy of thickly settled population. With the advent of the British rule the population began to

[2]Paul Ehrlich and Anne H. Ehrlich, "Population, Plenty and Poverty," *National Geographic*, 174 (6), Dec. 1988, p.916.

grow slowly up to the turn of the twentieth century and rapidly after 1921. Among the Third World countries, a study of the growth of population in India arouses much interest chiefly because of its overwhelming size and variations in the demographic structure. Geographically, India accounts for 2.4 percent of total world area and in contrast it accommodates 16 percent of the world's population. It is the second most populous country in the world next only to China.

The post-Independence period has shown an accelerated growth of population inasmuch as the national aggregate has doubled. The decennial as well as average annual growth rates have increased steadily during 1951-71, though there is a marginal decline in the 1981 census. Notwithstanding a sharp decline in the vital rates in 1981, the gap between crude birth rate and death rate continues to remain large. Hence the reduction in the birth rate alone must not be construed as an indicator of population control. The rapid expansion of population size in India will continue to be a major problem despite the decline in birth rates. An analysis of the Indian age pyramid clearly shows that the bulk of the population appears to be concentrated in the age group between 0-14 years of age and the next highest concentration may be observed in the age group of 30-39.

The pyramid has a broad base of youth with almost symmetrical sides tapering to a narrow apex and then spreading out into a broad summit of 'elders'. Youthfulness of India's population points to the possibilities of further national problems as increasing number of young people enter the reproductive age groups in the years to come. Therefore, the decline in birth rates will not bring forth a dramatic reduction of population size. Further, the high concentration of population in the age group of 15-59 years would also indicate a serious national problem. That is, the increase in working-age population and the backlog of unemployment are likely to be the most important challenges to development in the near future.

A related aspect of rapid growth of population is the fall in mortality rates which is shown by the increasing life expectancy of the Indian population. In principle, life expectancy is determined by the incidence of mortality rates which in turn depend on a number of factors such as occurrence of epidemics, incidence of diseases, nutrition levels, standard of living, women's care, infant mortality rate and so on.

Indian states can be placed at different stages of demographic transition. The first category consists of states such as Jammu and Kashmir, Rajasthan, Uttar Pradesh and Bihar which are in the earlier stage of transition with stable fertility and declining mortality and therefore increasing growth rates over the decades 1951-61, 1961-71 and 1971-81.

The second category consists of Karnataka, Punjab and Andhra Pradesh wherein there is decline in both fertility and mortality rates leading to a slight increase in the growth rates.

The states in the third category have experienced the equal degree of decline in fertility and mortality rates resulting in declining growth rate in the last decade though the rate remains still above 2.00 percent. These include Haryana, Gujarat, Madhya Pradesh, Maharashtra and West Bengal.

Finally, the fourth category of states consists of Orissa, Kerala and Tamil Nadu, which are in the forefront in the transition, with significant reduction in mortality and fertility rates, resulting in decline in growth rate (below 2 percent) in the last decade.

Population and the social system

An understanding of the cultural ethos and social issues governed by customs, beliefs and attitudes must necessarily be reckoned with while formulating a pragmatic policy approach to control the growth of population in the developing countries. The social order prevailing in many of the LDCs is a traditional one with its endemic problem of conflict between tradition and modernity. Consequently, a population policy has to look beyond the goals set according to economic-demographic models. It has to consider the problems relating to family size, fertility rates, status of women, child care and spread of literacy which are based upon the value system of a society.

Decisions regarding family size and welfare, at the household level, determine the population of the nation also. A family's contribution to economic development stems from its dual role as producer and consumer.

> As producer it provides labour resources and allocates these to various productive activities; it distributes work effort among its members; it saves and accumulates human and nonhuman capital; it takes entrepreneurial risks or seeks and implements new techniques of production. As consumer it creates demand for various commodities and allocates consumption among its members..An important question..., then, is whether population pressure induces families to behave in such a way as to retard economic development. This might occur where costs and incentives are such that what is optimal for parents is not optimal from the social perspective.[3]

In India social conditions have necessitated the decision in favour of a large family and there has been a persistent faith in the concept of large family. As such the motivation of a large section of people to adopt the norm of small family is low.

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[3]Elizabeth King, "The Effect of the Family Size on Family Welfare: What do we know?" in D. Gale Johnson & Ronald.D.Lee (eds.), *Population Growth and Economic Development* (University of Wisconsin Press, 1987), pp.373-412.

Studies concerning the relationship between population growth and economic development identify a negative relationship between family size and consumption per family member, physical development in children and participation of women in the labour force; alternatively, a positive relationship between family size and malnutrition and mortality. There is also empirical evidence to show that the economic position of family improves when family size is reduced. Moreover, economic development brings down the size of the family.

At the microlevel, the size of a family has serious implications for child welfare. According to economic decision-making models, parents are guided by the concept of marginal utility in deciding whether or not to give birth to a child. There are six types of utility which parents may derive from children: consumption utility, work economic utility, economic risk-reduction utility, old age security, long-run family maintenance and contribution to the extended family. These utility factors in developing countries may indicate that the higher the socio-economic status of the parents, the higher the marginal utility cost for having additional children and the higher the socio-economic status of parents, lower the fertility rate.

The family size is directly influenced by fertility rates. Two principal intermediate variables through which socio-economic changes influence fertility are: shifts in the age of marriage, and increase in the use of birth control methods. It is found that the improvement in the status of women has resulted in decline of fertility. This is possible only when women come forward to avail the educational facilities, participate in the workforce and in decision-making within the family and community units and improve their health status.

The level of literacy and the spread of education play a catalytic role in ushering social change.There is rise in female literacy rate and this is certainly an encouraging trend for an underdeveloped country. The enrollment in schools also shows a similar position though the concentration is mainly at the primary level. The interstate comparison shows that Kerala has the highest literacy rate whereas Bihar and Rajasthan have the lowest.

An interesting feature of Indian population is that it is basically a masculine one whereas in the Western countries it is feminine. Sex ratio is adverse to women notwithstanding some improvement in 1981. The decline in the sex ratio from 955 in 1921 to 933 in 1981 clearly indicates that there are many social factors which work against female population.

The density of population in India has also brought about several social problems such as housing and increased demand for infrastructural facilities. In India the density of population has increased from 77

persons per square kilometre in 1901 to 216 persons in 1981. The immediate consequences of this increase in density may be seen in overcrowding of cities and towns, thereby introducing additional pressures on the infrastructure available.

Population growth and economic change

It is widely held that a slower population growth would benefit most developing countries and that its positive effects on economic development would be clearest in the poorest and the most densely populated countries. Macroeconomic indicators of change such as national income, food supply, number of unproductive consumers, occupational structure, unemployment and the rate of urbanisation lead to an assessment of population growth as a contributory factor in the problems of poverty and inequalities in India.

The average annual growth rate of national income in India is around 4 percent while that of per capita income is less than 2 percent. The increasing pressure of population may be seen in the poor growth of national and per capita income.

The impact of population size on the demand for and supply of food in developing countries arises as a major problem in such countries as India.It is not only the working-age population but also the nonworking-age one that increase the demand for food. It is disturbing to see that the increase in demand for food is not matched with its supply.

Since the rate of growth of population in rural areas exceeds that of urban regions, the decline in the availability of food grains will also imply a reduction in the quantum of marketable surplus occurring in rural areas. The shift of population from rural to urban areas has caused an increase in the size of urban population from about 11 percent of total population in 1901 to nearly 24 percent in 1981.The reason is that people are moving away from rural areas in search of nonagricultural occupations. The Government's industrial location policy of developing backward regions also has not been effective in curtailing migration into cities and towns mainly because jobs created are taken up by better educated and trained people from the developed areas.

Expanding size of population in India has brought with it multifaceted problems of unemployment and underemployment which are generally regarded as 'antidevelopment' factors.If the economy is not able to provide employment to its current workforce of 305 million, over half of whom are underemployed or unemployed, it will not be able to provide employment to the workforce increasing by 30 percent in 2000 AD. In India widespread poverty and inequalities in the distribution of income and wealth are aggravated by the increase in population.

Family planning programmes

Population is controlled by means of the programmes of family planning. It is estimated that the developing countries have spent 3.2 billion dollars on family planning in order to tackle the "preventable disaster" of population doubling in about 39 years and reaching 27 billions by the end of the 21st century (given the present birth and death rates). The implementation of family planning strategy in India is wrought with social, cultural, economic, political and medical implications. The concept of family planning has to change from one of purely increasing contraception to one of raising the nutritional, health and social standards of mother and child, providing contraceptive services and even infertility management.

If the goal of the country or a family is to limit the family size, the general objective should be to induce the family to regulate the span of fertility of the woman with some form of contraception temporary or permanent used by husband or wife except for such periods as are necessary to produce the required number of children. It is advisable to delay the marriage of the girl at least till the age of twenty and to terminate fertility as early as possible. Early marriage adds at least five years to the span of fertility.

The family planning programme propaganda in India is normally received with mixed reaction as the society is multireligious. The Muslims and Catholics are bound by the holy scriptures which do not allow the use of artificial methods of contraception. Despite the cost, effort and time invested in the mass propaganda for family planning, it has been hampered greatly by the socio-economic, cultural and psychological compulsions of the masses to have a large family. The Committee on Population Control and Family Planning stated that, "Family Planning is not a medical problem: it is a social and psychological problem." Controlling the size of the family in an underdeveloped economy like India is crucial from the point of view of promoting savings capacity and reducing the current scale of dependency.

In India, the financial contribution of the State Governments to the family planning programmes does not seem to be substantial. It is still regarded as the responsibility of the government at the centre. Voluntary organisations are supplementing the efforts of the government. It is more important to devise better ways of communicating the message of family planning to the illiterate and tradition-bound masses if the programme is to succeed. Past experiences have shown that coercion in propagating this campaign has been counterproductive and therefore there is a strong case for developing a successful motivational strategy.

Conclusion

The phenomenon of overpopulation should not be viewed as an economic malaise in the poor and the underdeveloped areas of the world alone. Population growth in the highly industrialised and developed nations poses equally serious problems for the future. Mass poverty, starvation, malnutrition, illiteracy and unemployment are the possible consequences of overpopulation in an underdeveloped economy. On the contrary, the problem of overconsumption in the developed countries points towards the eventual destruction of global environment and the consequent threat to the survival of mankind on this planet. Therefore those who argue that development is the solution to population problem do not realise the obstacles created by excessive population to development itself. Hence the definition of the population problem cannot be in terms of numbers but it should be stated in the context of structural maladjustment of the economy due to several (social) institutional factors that are unique to every type of economy.

Group work (Ideally, each group may consist of persons from the same locality)

1. Try to get the necessary figures for population (for 2 years) in your locality so that you could compare the figures of one year with those of another. Has there been an increase or decrease? What is the sex ratio?

2. Do you face a living space crunch? If so, what is it due to? Is it due to unplanned housing or overcrowding or any other?

3. What kind of families do you find in your locality? Small or large? Which type is predominant? How does the size of the family affect employment, food, housing, health education and so on?

4. Have family planning programmes been launched in your area? If so, are they successful? If not, why? If conscientization is necessary in this regard, what strategies will you suggest?

5. Do you have immigrants living in your locality? If so, what percentage of the total population? How do they relate to the native people?

TECHNOLOGY AND THE DEVELOPING NATIONS

R.M.A. Mariasingham

Since our country is predominantly rural in character all development policies and programmes must emphasize rural development. Technology plays a vital role in economic development; hence technological development of the rural areas assumes great importance in the overall economic betterment of the masses.

The present development approach and the ills

Both economic development and its component, namely, technological development are marred by similar ills. Let us, therefore, consider first in some detail the overall economic development policies and approaches that are currently in practice. We will then take up for scrutiny the specific problems of technological development which are almost direct consequences of the above policies with a view to finding an alternative approach that would cure the afflictions.

While the overall growth rate of a developing country like India is claimed to be satisfactory, the economic improvement of the majority (the rural poor) is not at all encouraging. It is generally agreed that although the country's overall economic performance is improving, the poor are becoming poorer resulting in increasing disparity between the urban and rural areas in terms of wealth, wages, education, employment opportunities and so on. In spite of the overall economic progress of the developing countries, there is every indication that the miseries of the majority in these countries will only worsen in the future. The result of such a worsening economic situation in the rural areas is a vicious circle in which the large-scale rural to urban migration demands more urban-oriented development which leads to further migration of rural people to the urban areas. The consequences are unchecked urbanisation, unmanageable cities, deteriorating rural areas and the creation of more and more pockets of deprivation within a developing country.

The factors contributing to this unbalanced and unfair development of the developing countries have been well identified, and even methods of tackling them suggested although in very general terms. In any case no serious attempt has been made to adopt these methods.

Among the causes for this unbalanced development of the countries, there are three major ones. The first is the macrolevel development

planning. It is a highly centralised top-down development model which overlooks the specific needs at microlevels. The main objective of such a model has been to increase the overall wealth of the nation so as to improve its standing at least, as a regional economic and military power. To achieve this objective, developmental strategies that are based more on competitive and egoistic tendencies than on humanitarian values are adopted. The emphasis of development has been on export-oriented production and not on production to meet the needs of the masses. Such a macrolevel objective, even when successfully achieved, results in development in pockets and accumulation of wealth in the hands of a few.

Some of the ironies of such a development are the following: while the macroeconomic growth indicators seem to point to a satisfactory growth rate for the nation as a whole, the economic development of the majority is either marginal or even negative; while the country is well-equipped with the latest weaponry to fight even a mighty enemy, it is totally ill-equipped to meet recurring floods, in the process losing more people every year in floods than in wars which it never fights; and while the latest jets are added to the fleet of the country's airlines to meet the increasing demands of the few who travel only by air, people who cannot afford travel by even a bicycle are on the increase. Thus, the casualty of the macrolevel approach is the need of the masses at the microlevel.

Such a development, which is illusory and farcical, is at the expense of the poor majority and it is undoubtedly the root cause of all the ever-increasing major political and communal problems in many developing countries. In the long run, such a macrolevel development policy will only perpetuate further segmentation of the societies in the developing world into the rich minority and the poor majority and eventually lead to a total breakdown of all orders—economic, political and social. Even if it does not, it is still an unacceptable development on humanitarian grounds as the poor majority have as much right to development as the rich minority have.

The second major cause for the prevailing ills in the development process is the tendency to consider the interconnected problems as isolated ones. This tendency arises from a complete lack of understanding of the complexity and interdependence of the problems and from an inability to look at development holistically. Many of the problems of the developing countries, such as uncontrolled population growth, lack of basic education, health problems, insanitary living conditions, unproductive agricultural methods, growing unemployment, rural to urban migration and uncontrolled urbanisation are all highly interconnected. Tackling these in isolation will be a futile exercise.

The third major contributing factor for the ills of development is the lack of participation of the masses in the development process. In the developing countries the involvement of the vast majority of the people — in most cases the rural poor — in the national development process is practically nil. Almost all the decisions are made by the urban elite.

The vast majority are not even aware of these decisions (and their implications) which, ironically, are made for them. The priorities of the decision-makers, in most cases, are not those of the poor, and very often they are only obstacles to true development.

The urban priorities do not just deprive the poor of their rightful share of development and participation in the development process; they have a much deep-rooted sociological implication too. In the event of their aspirations and needs not being met, the rural masses are slowly being misled into believing that the value systems of the decision-makers, which are often imported from the developed world, are probably the ones to aspire for. The recent report in a Chinese paper about the peasant girls in a remote southern region in China who take their lives in unprecedented number in the hope of being reincarnated as sophisticated urban young women confirms this.

It is often this imposition of the imitative culture on the native poor—more than the economic deprivation —which is, in the long run, more damaging and devastating a cause for many of the ills (particularly, rural to urban migration and uncontrolled urbanisation) of the developing countries. It is highly naive to believe that rural people move to urban areas merely to find employment. In many cases the glitter and glamour of the urban way of life are stronger attractions. We are not debating here the merit of one value system against that of the other. What is being pointed out simply is the imposition of the value system of one section of the population— that too of the minority —on the other section of the society. Such imposition results from a lack of participation of the majority in the decision-making process.

Impact on technological development

These three major causes of the ills of the overall economic development have direct impact on technological development. Thus, macrolevel planning, at the technological development level, results in a total mismatch between the perceived development and the real one needed at the microlevel. For example, in the case of Tamil Nadu its needs are quite diversified and so technological planning at macrolevel will not meet the specific needs of the microregions. How could a plan that aims at meeting the needs of Thanjavur region, with a rich agriculture base,

meet the needs of a backward region like Ramnad with lesser agricultural activity? Or how could a plan that would be ideally suited to the needs of a region like Coimbatore, with a textile base, be suited to Chidambaranar district, a large coastal region with its associated economic activity?

Another casualty of the macrolevel planning is human resource development. Particularly, in the case of the human resource development for technological development, at present, the number of technical personnel produced at various levels in the various professional institutions is not matched to the current or projected national needs. The haphazard growth of technical institutions and the stereotyped engineering programmes offered in them would vouch for this fact. Not even the planners seem to know the actual needs at various levels. Even if they knew, it will be one large figure for the nation as a whole. Breakdown of this figure into various categories for specific projects at microlevel will not certainly be available. Since the generation of manpower is not target-oriented it only results in a glut of technocrats in one area and an acute shortage of manpower in more vital areas. With the lack of information on the changing needs at microlevel, manpower generation is not dynamic and suited to the changing needs, and the situation continues with no fast remedy to change the demand-supply equation.

The segmented approach to interconnected problems is adopted in the technological domain also. Technological development includes technology development, technical human resource development, and technology transfer. While the government departments are expected to identify and develop a particular technology, the institutions of technical education are called upon to develop human resources. The industries apply the technology that is developed and use the human resources. These three sectors pay little attention to the local needs of the people and, what is worse, do not coordinate their efforts.

In the technological development process too, the lack of participation of the masses has led to double standards, lop-sided priorities in technology choices and irresponsible use of technologies. The lack of participation of the masses in the technological development process is mainly due to the fact that most technocrats in the developing countries are the urban elite, because for too long, education — let alone higher technical education — has been the privilege of the elite of the society (the urban rich or the urban-minded rural rich).

Remediation

Microlevel planning

Obviously development planning is the remedy. It must be need-

based at the microlevel. To be meaningful and effective, it must be based on the indigenous resources—both natural and human —available in the region and oriented towards the specific needs of the people in that region.

All manufacturing and production activities should be geared to meet, first of all, the needs of the people of the region. As far as possible all economic and development activities in the region should be planned to promote— and not to displace or replace — the traditional occupations and professions of the local people. The objective must be to elevate the technological standard of the traditional methods without destroying the traditional and cultural fabric of the professions.

Application of biotechnology to the traditional agricultural methods in Tanjavur region, using microcomputers in textile industry (including small handloom industries) in Coimbatore, employing latest developments in remote sensing and seismic studies in ground water development and management in Ramnad region, using the latest technologies in food processing and preservation to enhance the income of coastal people in Chidambaranar and Kanyakumari districts, etc. are a few of the numerous possibilities to blend high technologies with traditional methods to improve the economic conditions of the people of the different regions.

Again, if human resource development is planned to meet the needs at the microlevel, the demand-supply situation could be made elastic and responsive to the development needs avoiding the problem of unemployment in certain areas and scarcity of labour in others.

An integrated approach

The next step in the remedial process is an integrated approach to the solution of problems. Family planning programmes without basic education, health care without concern for sanitary living conditions and malnutrition, communal harmony without due regard for economic and social equality and so on must be avoided. Links between such problems should be carefully studied and a total solution worked out. Priority areas must also be identified. Maximum literacy and education, for instance, is the basic need for development and so it must be given top priority. No significant economic development can be achieved in real terms without reasonable population control and hence population control should be treated as one of the priority areas.

In technological development, similarly, it is essential to integrate the three constituent activities, namely, technology development, technical human resource development, and technology transfer. The technology needed for the development of a microregion should be identified and

developed, the manpower required to implement the technology should be generated, and the transfer of the identified technology should be effected using the developed human resource. All these must be coordinated at the microlevel to achieve need-based development.

Participatory development

Ways and means should be found to bring the people, particularly the rural masses, into the development process. The poor are not involved in the development process because a) our leaders do not have the proper vision and b) there is a tendency on the part of leaders to be benefactors handing out dole to people on a platter in return for credit and power, instead of helping them to help themselves.

The most important obstacle to participatory development at present, however, is the lack of ability of the people to participate, given an opportunity. In order to be able to participate and to be decision-makers, people need the power of knowledge, skills, management capability, ability to use with ease the tools of science and technology, and above all confidence in their own ability and a desire to design their own future. All of these are totally lacking at present in the rural poor. Unless the poor possess these, true development will only be an empty dream.

For discussion

1. How does the author's criticism of modern technology apply in the case of a particular technology established in your locality?

2. What traditional technological potential do you find in your locality? Suggest some ways to realise it.

3. Is traditional technology compatible with high technology? Debate.

4. Do you think the recent Panchayat Raj Bill will help remedy the ailment of modern technology in our country?

SOCIETAL GOALS IN THE CONTEXT OF TECHNOLOGICAL DEVELOPMENT

T. K. Oommen

Humankind experienced several social revolutions in the past five centuries leading to the secularization of social order, disturbing the traditional bases of status ascription, establishing political equality, bringing about distributive justice and evolving a participatory society. The central thrust of all these social revolutions was eradicating inequalities in the contexts of status and rank, power and privilege, income and wealth. Admittedly, the goal is not yet achieved, the revolution remains unfinished. Yet it is true that the broad trend of movement is from cumulative inequality of traditional societies to dispersed inequality of contemporary societies. In all probability the trend would have continued and perhaps concluded by the middle of the twenty-first century resulting in the crystallization of an egalitarian society but for the emergence of technology as a crucial factor influencing the course of social development.

Let me underline two points which are of critical importance for the present discussion. First, the role of technology became increasingly more crucial in the successive revolutions. Second, the greatest victims of advanced technology — the foreign workers, the women, the unemployed and the unskilled—are also the worst sufferers under conditions of underdeveloped technology, for, the most hazardous and unpleasant tasks are assigned to them. Technology is at once an emancipator and oppressor. Therefore, while discussing societal goals in the context of technological development, our primary concern is with the oppressed people. One such important societal goal is to determine the nature of our technological option.

I

Conventionally, technology has been categorized into traditional (primitive) and modern (Western). The traditional societies usually constituted by tribal (primitive) or peasant (agrarian) peoples had simple technology which was operated predominantly through animate energy. But the technology of the modern societies is based on inanimate energy.

Technology based on animate energy is small-scale technology by its very nature. In contrast, technology anchored on inanimate energy tends to become large-scale, geared to mass production. In those countries which experienced industrial revolution first — the nation-states of

contemporary West Europe and North America — the tendency was to replace the traditional small-scale technology with modern large-scale technology. The advantages of modern technology were obvious, at least at the initial stage, given its signal contribution to accelerate the process of economic development and eradicate abject poverty. Consequently, big-size technology gained acceptance almost instantaneously. But within a few decades its disadvantages were gradually unfolded — high capital investment, large-scale unemployment, growing disparity between the rich and the poor, alienation of the worker, environmental pollution, and ecological disaster. Understandably, from a dichotomous conceptualization of technology a shift occurred to a trichotomous one — traditional, intermediate and modern technologies. Intermediate technology as a concept was first proposed in 1973 by E.F. Schumacher in his well-known book, *Small is Beautiful.*

Intermediate technology was proposed to grapple with the ill effects of modern (Western) technology and to overcome the inefficiency of traditional technology. It was conceived as middle-level technology. Dissatisfaction with the concept of intermediate technology led to the emergence of several other conceptual terms — indigenous, progressive, socially appropriate, labour-intensive, self-reliant, environmentally sound, etc. — all of which carry with them connotations which are not always acceptable. And currently, appropriate technology (AT) is the favoured term.

Notwithstanding an array of impressive writings on AT there are two persisting misconceptions. First, it seeks to *displace* traditional technology. It may be noted here that AT need not, in fact, it should not, displace all traditional technologies. Some of the traditional technologies are appropriate in terms of the context in which they exist and are applied. However, there are certain traditional technologies which are inappropriate and hence should be discarded. To deal with this problem, we need to develop an approach, a philosophy of social transformation.

All traditions have elements of assets and liabilities. The ingenuity of a people lies in retaining the assets and rejecting the liabilities in their tradition. Both false pride in tradition and utter contempt for it are stumbling blocks to bring about authentic social transformation. Therefore, we should opt for a strategy of selective retention of the relevant and cautious rejection of the irrelevant in traditional technology.

The second misconception is that AT is a *substitute* for high technology. The advocates of AT invariably reel out a list of negative features of high technology (HT) and argue that these 'evils' can be eradi-

cated through AT. AT as it is understood today (middle-level technology) cannot substitute HT in certain contexts.

The conceptual error common to both the above perspectives is that the three technological pairs — traditional and appropriate; high and appropriate; high and traditional—are viewed in either/ or terms. But as I see it, an authentic notion of appropriate technology should advocate *technological pluralism,* the *coexistence* of traditional, intermediate and high technologies. These are not competing but *complementary* technologies. They are to be used selectively; contextual relevance is that which makes one or another type of technology *appropriate* and not its size, or specific attributes. That is, all technologies are appropriate, contextually, irrespective of size.

Advocates of AT, occasional denials notwithstanding, have a specific empirical situation in mind as the probable area of its application. To begin with, AT is prescribed mainly for Less Developed Countries (LDCs), considering that they are capital-poor and human-resource rich. Within the LDCs the preferred contexts of AT applications are rural areas and urban slums. Thus the global empirical situation is conceptually polarized in terms of the application of AT. Accordingly, the affluent metropolitan centres of Highly Developed Countries (HDCs) need not have any AT but can have exclusively HT. On the other end of the pole, the rural poor of the LDCs can have no HT but only AT. The unintended but predictable consequence of this strategy is the reinforcement and even enhancement of the existing situation of disparity between HDCs and LDCs and the elites and masses within them.

We must think in terms of *societal sectors* to which specific technologies — traditional, intermediate and high — should be applied. These sectors are found in all societies irrespective of their level of development. Thus the application of a specific type of technology is to be determined in terms of the *needs* of specific sectors in particular societies and not of their *resources* or purchasing power. This calls for a new prioritization; a new conceptualization of a common style of life applicable to the whole world. This indeed is a formidable societal goal to be pursued in the 21st century.

The task that awaits us, by no means a simple one, is to delineate the different levels of technologies in terms of their contextual relevance. The cautious identification and judicious application of the different levels of technology to the specific contexts to which they are appropriate in all societies should be our priority. That is, appropriate technology and technological pluralism are two sides of the same coin. Such a perspective carries with it the potentiality of establishing a just, human and ecologically sustainable society.

II

While science and technology have contributed considerably to human progress they also pose the greatest threat to human existence today. The reckless application of these result in environmental degradation, ecological imbalance and distortion and destruction of nature. The traditional distinction between nature and culture, the latter being understood as the man-made part of the environment, does not seem to hold any more. Nature has become culture; nature is no more wild, innocent and virgin but it is created, intervened and violated. Against this backdrop, I suggest that harmony between humanity and nature should be vigorously pursued as a societal goal in the coming century.

At the core of modern scientific civilization lies the conception that man and nature are two oppositional entities and that for the sake of human progress it is necessary to conquer nature. And the scientific method has been the chief instrument of realising this conquest. The Judaic monotheistic belief that the spiritual presence in and behind the universe in a single transcendent, human-like God reinforced the further belief that nothing else in the universe is divine. This God is not only the creator of man and nature but is also endowed with the power and right to dispose of what he had created. (See *Genesis* 1:28-29)

In the ancient times humanity was confronted with an overpowering nature, leading to its divinization or demonization. The power relations have since been reversed by science and technology which threaten to annihilate all life on the earth. While for future material development the Western attitude of dominance is viable, for protecting nature and environment, the Eastern attitude of reverence is. What is needed, then, is a perspective that can rise above the differences of the East and West, and bind the entire humankind into a unified body in order to save the Occident from its present crisis and the Orient from its current hardships. In contemporary thinking the relationship between humanity and nature is viewed either as dependent and dominant or as independent and autonomous. And herein lies a fatal error. If unqualified dependence and dominance are degrading, unlimited independence and autonomy are dangerous. We need to conceptualize the relationships between humanity and nature as interdependent, reciprocal and complementary if we want to sustain authentic ecological balance.

In this system of relations, as in any other, some relations are strong, others weak, still others tenuous or even incomplete. We need to take an unambiguous position regarding the nature of this relationship. As I see it, the relationship between humanity and nature is hierarchical;

they are involved in a vertical unity. Admittedly, at the top of this hierarchy is humanity followed by nonhuman living creatures and the inanimate part of the nature. In this schema, equality between the constituting elements is not possible, not even tenable as they belong to different species and categories. But reciprocal dependence and circumscribed autonomy are possible and necessary.

Western nominalism tends to invest the constituting elements in the system with unlimited autonomy leading to their disengagement from one another. Eastern holism has led to the complete denial of autonomy to the constituting elements rendering them incapable of any independence. The Eastern notion of interpenetration of divinity in the entire universe with equal density, limits the possibility of human intervention often leading to the uncritical acceptance of status quo. The Western idea of localization of the sacred results in reckless intervention in and manipulation of nature. We need to correct the imbalances in both.

III

Let me plead for a third societal goal, namely, cultural pluralism, again, posited against the background of contemporary technological developments. It is widely believed that the emergence of industrial urbanism, rendered possible through the application of science and technology facilitated by transport and communication, would lead to the demise of traditional loyalties and ties. We have been told of the emerging "global village," warned about the "future shock" and, of course, cautioned of the "third wave." Technology, it has been argued, would lead to the standardization of cultures and a universal life-style. To be sure, these trends and tendencies are evident. But a more forceful, perhaps authentic trend is also at work; an incessant search for roots and identities, particularly among the disadvantaged and marginalized — the women, the youth, the Blacks and minorities of all description. These apparently contradictory trends are actually complementary in that it is precisely because of the threat of standardization of cultures posed by technology that assertions of sociocultural identities are so vigorously articulated.

There is yet another but organically linked process involved here. Technology can be employed both for centralised decision-making and decentralisation of the decisional process. However, the usual tendency is to use technology as an instrument of centralization of power and authority. But the search for roots militates against this; it is a quest for autonomy and decentralised polity. For which of these purposes technology will be harnessed in a country would depend upon the nature of its

political system and the value-orientations of the dominant collectivities which shape the polity.

If in Europe, empires dissolved into nation-states usually respecting the norm, "one nation one state," (barring a few exceptions) the colonies by and large retained their 'multinational' character even when they got partitioned as in the case of India. Given such a situation, the tasks of nation-building were political integration, economic development and maintaining cultural pluralism. To the extent cultural pluralism is perceived to be an obstacle to the realisation of the first two objectives the situation is often described as one of national crisis, decay and disintegration. This means that, paradoxically enough, it is the very nurturing of nationalities based on religion and language (the European variety) which is perceived as the chief obstacle to nation-building in the countries of Asia and Africa. It is important to note that there is a big divide here between the cultural mainstream, the dominant nationality, which occupies the 'centre' and the dominated nationalities of the 'periphery.' The 'communalism' of the dominant collectivity is perceived, defined and legitimised by itself as 'nationalism' and the 'nationalism' of the peripheral communities is stigmatised as 'communal.'

In Independent India while 'secularism' and 'nationalism' are defined as legitimate by the state and the dominant collectivities, all varieties of mobilisations which articulated the aspirations of the people at the micro/local levels, are invariably perceived as illegitimate. Thus, what the Hindus described as Muslim communalism was perceived as nationalism by the Muslims and vice versa. And this perception continued even after Independence. Today, the situation with regard to Nagas, Tamils, Sikhs or Gorkhas fits into the same mould. This does not augur well for authentic nation-building because what are often labelled and dismissed as parochial, regional, subnational, antinational and secessionist in India are invariably expressions of nationalist aspirations, insofar as nationalism is understood and defined in the European sense. Therefore, it is necessary to recognise the specificity of the Indian situation and accept *cultural nationalisms* as important ingredients of political nationalism. What we need is a *re-legitimisation* of localism and decentralisation of polity both of which are prerequisites to govern a nation-state of India's size and diversity.

To me it seems that none of the existing nation-states afford ready models to be replicated in India. In fact there are but three examples in the world — China, USA, Soviet Union — which are comparable in size and/or diversity. But these nation-states emerged and operate in so radically different conditions that their experiences are scarcely useful to us.

The thrust of my argument, then, is that India cannot build an authentic nation-state by building a cultural mainstream reducing the numerous collectivities of the periphery to the status of marginals. We can only have a nation-state with multiple cultural 'centres.' In pursuing this task the different cultural collectivities should be encouraged to nurture and foster their specific identities. But this should not in any way deny them equal economic opportunities and political rights. That is, while there can be and should be economic and political mainstreams in India to which all the citizens should have equal accessibility, there cannot and should not be a cultural mainstream, precisely because the principles of recruitment to these mainstreams radically differ. Indian nation-state will have to be based on economic justice, political democracy and cultural pluralism. And, technology can be of immense help to achieve this complex goal, if it is appropriately used.

IV

We live in a world torn asunder by ideological polemics. Polemics can convey our ideas with telling effect but it can also lead to hasty and irrational rejection of alternatives. Among those who support or oppose technology we have very respectable names. Karl Marx, for example, thought of technology as a potent instrument of human liberation. Mohandas Karamchand Gandhi vigorously pleaded for the limited use of technology as he perceived it as a vehicle of exploitation of man by man. But the fact is that technology is at once an instrument of liberation and oppression depending upon what kind of technology is pressed into service for what purpose, in which societal sector and context. It is this perspective which informs our discussion of the three societal goals for the twenty-first century, namely, opting for appropriate technology, establishing harmony between humanity and nature and maintaining cultural pluralism.

For discussion

1. Why does the author say that while we discuss technological development our primary concern should be the marginalised people?

2. Consider the statement, "appropriate technology and technological pluralism are two sides of the same coin."

3. The author advocates a critical understanding of both "Western nominalism" and "Eastern holism." Do you think these two terms adequately express or oversimplify god-nature relationship? Give reasons to support your position.

4. Is it necessary to suppress regionalism in order to integrate the nation? Argue.

DE-DEVELOPMENT: A CASE FOR TRADITION*

Nirmal Selvamony

The term 'develop' means "to set forth," or "make clear by degrees," "to make visible." It derives from two Old French words: *de*, from, away, and *voloper*, to wrap; *de-voloper*, to unwrap. So, etymologically, development refers to the process of removing the cover from something and showing what is hidden inside.

The word is seldom used in this sense nowadays. The field of photography, perhaps, is an exception. But more familiar meanings are: 1) evolve, 2) to promote the growth of, and 3) to expand. These meanings show development as a process which accommodates a totally new element at some point or as a process of differentiation. But originally, to develop is to merely make visible whatever was already there.

Since this term is used as a magic key to open the doors of our society into the vistas of tomorrow it requires close investigation. If we attribute the meanings of 'evolution' and 'expansion' to this term it may not operate as beneficially as we would imagine it to; may not prove to be the right key after all! As such, the greatest threat to true development is the modern notion of it. And so, the sooner we abandon this key and forge the right one the better for us.

In this paper we shall (A) examine the modern notions of development, (B) lay bare some of the crucial assumptions undergirding it, (C) enumerate some of the adverse consequences of applying this "key concept" and finally (D) suggest an alternative to it.

A) Modern notions of development

Today development may mean the following: a) growth, b) evolution and c) increase.

a) Growth

Sometimes development is used as a synonym of growth. In this sense, one could say that a "blossom develops from a bud." However, the two terms are distinguishable in meaning. If development is a process which is, at least logically, interminable,[1] growth is one which has to cease at the point of maturity. Schumacher elucidated 'growth' quite humor-

*A revised version of a paper read at the Workshop on Value Education, 13-18 June, 1988, Danishpet, Salem, S.India.

[1]Daya Krishna, *Political Development: A Critical Perspective* (Delhi:OUP, 1979), p.180.

ously when he asked, "How can anybody assert that growth is a good thing? If my children grow, this is a very good thing. What if I suddenly start growing?"[2]

With regard to human society, there is widespread belief that it grows with time. Modern society is said to be more grown than the primitive one.[3] A proper chronological perspective of the global history would require us to conceive a fertile, wealthy and adequate world ready to sustain man even as he occupied it first. The earliest archaeological evidences bear out that the most primitive man knew technology, art and religion and lived richly in harmony with Nature. While the traditional systems, both natural and cultural supported man for thousands of years, the modern ones have only caused panic and spell imminent disaster. Modern man awaits the reward he deserves at his own hand. How could he be more advanced than his primitive counterpart?

b) Evolution

Closely related to the notion of growth is that of evolution. In 1852 seven years before the appearance of Darwin's *Origin of Species*, Herbert Spencer (1820-1903) wrote a paper on the "Development Hypothesis" in which he outlined a theory of organic evolution. Twenty-two years later, in his *Principles of Sociology* he advanced an organic theory of society. While adopting the notion of evolution from the biological sciences, Spencer "paid little attention to the more specific features of biological theory."[4] After considering the analogy of evolution in the social sciences, Bottomore concludes that "the term development is no more precise than the term 'evolution' in its application to social phenomena."[5]

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[2]*Indian Express*, 10 Oct. 1982.

[3]Many modern writings air a similar view as this one, for example: "In primitive society there was little place for a doctrine of progress. Institutions were believed to have been revealed by supernatural powers, and hence were perfect and immutable. Custom and taboo marked out the path of conduct. Primitive man could scarcely conceive of altering society and culture for the better.... In Oriental antiquity much of the same attitude prevailed as in primitive times." Henry Elmer Barnes, *An Intellectual and Cultural History of the Western World*, vol. III, 3rd rev. ed. (New York: Dover Publications, 1965), p. 823. The basis for this assumption seems to be either ignorance of the primitive civilizations, or ethnocentrism or obscurantism. Many modern Euro-American accounts of the Primitive Age or the Orient may bear this out. See Melville J. Herskovits, *Cultural Anthropology* (New Delhi, Bombay, Calcutta: Oxford and IBH Publishing Co., rpt. 1974), p. 356.

[4]T.B. Bottomore, *Sociology* (Bombay: Blackie and Son Publishers Pvt. Ltd., 1962), 1983, p.284.

[5]*Ibid.*, p. 285.

c) Increase

Development is more often than not spoken of as increase. Let us consider the sphere of knowledge. What does it mean to say that today our knowledge has developed? Probably we refer to the increase in the volume of information made available.

It may be profitable to see at what cost this knowledge has been augmented. Is it really worthwhile increasing our knowledge by undermining such aspects of knowledge as skill, connoisseurship, memory; by becoming overdependent on external aids; by misconceiving the word; and by uprooting knowledge from its traditional context?

Skill[6]

The possessor of traditional knowledge was required to apply it readily and effectively. Today, application of skill is not necessarily linked to 'knowing'. So much so, there are many of us who are merely repositories of information with no skill for the application (use) of it.

Moreover, today we are able to collect, classify, store, retrieve and disseminate large amounts of information mainly because those involved in these processes are prepared to dispossess themselves of the skill to use the information they process.

Connoisseurship

The price of increase in information was not only loss of skill, but also connoisseurship which consisted in competent judging of a thing. Today one who has knowledge of a certain thing need not be a connoisseur of it.

Memory

We have lost not only our power to do and judge but also retain. While the ancients set great store by memory,[7] the moderns have very little use for it. The ancient texts were rendered in such form (verse) as will register easily in memory. Most modern texts are in prose which is not easily retained in memory.

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[6]For a detailed treatment of skill and connoisseurship, see the 4th chapter of Michael Polanyi's *Personal Knowledge* (Chicago: University of Chicago Press, 1962), pp.49-65.

[7]Robert Scholes and Robert Kellog, The *Nature of Narrative*(London, Oxford, New York: OUP, (1966), 1968), p.19.

Extramental aids

While in antiquity, memory bridged generations, it is the extramental aids such as books, magnetic tapes, and celluloid strips which 'try' to do much the same. The enormous increase in the quantity of knowledge is more a matter of externalisation than internalisation.

Misconception of the word

Modern man's pitiful dependence on external aids betrays a curious distortion of the truth about the word. The word is an *event* performed in time.[8] The ancient society which was largely oral-aural realised this axiom and functioned accordingly. But modern society looks upon the word as a *record* independent of the performer and the context. Our dependence on chirographic-typographic technology has fostered this modern superstition about the word.

Uprooting knowledge from tradition

Cashing on the misconception of the word and the various modes of externalising it, the technology of printing performed the magical feat of knowledge boom. There was a quantitative increase in information and it was possible only when knowledge was uprooted from its traditional context. To denote this process of uprooting we may coin the term *'de-traditionizing'*

Knowing and doing may never be divorced from each other. To the ancients these were two stages of any event of knowing. To know a thing is to be able to practise it, live it. Such knowledge was imparted by master to disciple. It was learnt by apprenticeship. It had to be so, for every human endeavour worthy of emulation involved certain unspecifiable, ineffable elements which could be passed on only by example. This restricts the imparting of such knowledge to personal contacts (making modern democratisation and mass-orientation impossible). As a result, knowledge of the particular matter at hand tends to survive only in closely circumscribed local traditions.[9]

Information about various (human) enterprises has proliferated because the traditional knowledge of the ancients was seized from them and unashamedly patented and exploited by the powerful capitalists and private sectors of today.

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[8]Walter J.Ong, *The Presence of The Word* (New Haven and London: Yale University Press, 1967), p.x.

[9]Michael Polanyi, *op.cit.*, p.53.

Evidently, in the present context, increase in knowledge is always accompanied by decrease in (even, loss of) such vital aspects of knowledge as skill, connoisseurship, memory and so on.

Strategies

To achieve such development the modern man may resort to some strategy or the other.[10] Often he achieves it by *catching up*. The metaphors of the pyramid or the ladder are employed to illustrate this strategy. So we speak of a developing country trying to catch up with a developed one. Or the modern man may achieve it by a strategy of *selection* or *triage*. The metaphor of the lifeboat expresses a similar idea. To move to a better state (a kind of differentiation) or to develop is to help the fittest survive.

An adequate understanding of the modern notions of development calls for a close examination of the underlying assumptions in a sketchy manner.

B) Some presuppositions

Of the Individual Man

a) Infinite wants

Each individual of modern 'society' has infinite potential and hence infinite wants. This notion could be traced back to the concept of the Universal Man (It. *homo universale*) also called Renascence Man "who can do all things if he will."[11] This idea originated in Italy and was expounded by Leon Battista Alberti (1404-72). It wrapped all the crucial tenets of Renascence humanism together: since man is the centre of the universe and limitless in his capacities for development he should try to embrace all knowledge and develop all his capacities as fully as possible. Such an individual is Erich Fromm's "the eternal suckling crying for the bottle."

In contrast to the Renascence man (who seeks development), the ideal Indian man is expected to be austere. His cultivation lies in dispossessing himself of the superfluities.

b) Survival, the chief end

One of the chief ends of modern society is life itself and the foremost need of modern man is to keep the body alive. Accordingly most of the developmental activities value survival rather than quality of life.

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[10] For a discussion of the two strategies, "catching up" and 'selection' see Somen Das, "A Critique of Modern Development," *Christian Ethics and Indian Ethos* (Delhi: ISPCK, 1989), pp.136-9. He, however, treats these not as strategies but *kinds* of development.

[11] *The New Encyclopaedia Britannica*, vol. 9., 1987, p.1021.

The ancient Indians believed: "Modesty is more essential than survival and chastity even more than modesty."[12]

c) Materialism

A developed individual *has* (or has more) whereas the underdeveloped one has not (or has less). Here the reference is, obviously, to material goods. So, development very often means material advancement. It fosters acquisitiveness.

The basic needs of an individual (who needs to be developed) are physical ones, such as food, clothing, shelter and so on. Accordingly, all developmental activities are geared to gratifying these needs. After fulfilling these needs, development aims at providing as much comfort and pleasure as possible. At this stage development is indulgence. And that is what the developed nations are now busy with.

d) Estrangement from the environment

The individual who is the target of development is one who is estranged from his indigenous naturo-cultural environment (or *oikos*). Since the development that he will receive will be a standardized package deal, he will need to conform to a life-style that is standardized, urbs-centred, quite unlike the one that he has been cherishing in his own environment. The world of development is nothing but a departmental store and one spends all his life earning the tokens to buy the priced packages on display.

If only the developmentalists could help the individual dispose himself in proper relation to his *oikos* (the ground of production and sustenance)!

Of the world

The world of development is a noncommunitarian aggregate of individuals. Every individual is levelled and made to conform to a standardized, emerging global life-style of the developed. Trying to "rise up" to this standard may involve severe cutthroat competition and rugged individualism.[13] In the process an individual may be looked upon as another commodity to be used and disposed off.

With regard to the world of Nature the attitude of the developmentalist is one of arrogant dominance. He stands apart from it and *uses* it

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[12]*Tolkāppiyam* III. 3.23: 1-2.

[13]Consider the competitive economic individualism of Herbert Spencer's Social Darwinism. In America it was popularised by Andrew Carnegie and Herbert Hoover. See J. Macquarrie and J. Childress (eds.) *A New Dictionary of Christian Ethics* (London: SCM Press, 1986), p.297.

with no regard for the consequences and thereby violates its harmony and endangers survival.

The assumptions about the individual man and the world have to be carefully analysed in order to comprehend the ethical implications of the consequences of development.

C) Consequences of development

Now we shall review some of the consequences of development, particularly in the domain of economy and in the related area of transportation.

Development economics

a) Unlimited wants

Development economics is based on the notion that man's wants are unlimited and grow steadily. Economy is not planned in such a way that people get what they *ought* to want but in a way that they may get *whatever* they want.

b) Megatechnology

To satisfy all the wants of all the people nothing short of megatechnology could be adequate. Iron and steel, heavy machinery, mining, heavy electrical plants, aeronautics, nuclear plants and so on are examples of megatechnology. The big corporations like banking, transport, post and telegraph are impossible without big technology.

Megatechnology, as we know it today, is based on the philosophy of conquering Nature and not of living in harmony with it. Sustaining megatechnology means exploiting, depleting Nature and polluting the environment. Some of the worst ill effects of megatechnological industries are the destruction of ozone layer, greenhouse effect and acid rain.

The promoters of megatechnology claim that it is possible to have it in such a way that it does not degrade the environment. The students' Science Society of Assam expressed naively a similar conviction when Coal India disfigured their lively environment in Upper Assam through open-cast mining for coal: "It is not that there should be no development in Upper Assam. We want development. But it should be environmentally sound development."[14]

In the case of nuclear technology, it has proved to be a dangerous game better abandoned than continued. Dr.Flavin, a senior researcher with the Washington-based World Watch Institute, has this to say on

[14] *Indian Express*, 5 June 1988.

this matter: "nuclear power is a technology unsuited to human fallibility and open political institutions. The deliberate and planned abandonment of nuclear power would not indicate humanity's decline but rather its advancement."[15] In the Third World, nuclear experience, he says, is an economic tragedy, for, huge infrastructure investments are required and even after 'successful' installation, the power generated will not meet the energy needs of the rural power.

c) Minority economy

Megatechnology is a technology of a minority which is economically and politically powerful. This minority controls the entire economy of the country. Needless to say that all our developmental efforts are geared to strengthening such minority economy.[16]

d) *Urbs*-centredness

The base of operations of the powerful minority is the *urbs* or city and naturally all our development effort goes into either developing the *urbs* directly[17] or indirectly. Most of our rural development programmes may be considered indirectly *urbs*-centred. They are mere placebos for the innocent rural Indians. These programmes are designed to win for the "top few" the goodwill and the vote of the "bottom many".

e) Wastage

At the global level, the kind of development which the top few developed countries have achieved involves enormous wastage. For example, "the U.S.A has 7% of the population of the world but has used up in the decade of the 60s more resources than the entire humankind in all previous history! The "American way of life" cannot be sustained in America itself and there cannot be another America."[18] And do we want India to develop by robbing the resources of the other nations?

Now let us highlight some of the consequences in the area of modern transport.

Transport

Modern development is inconceivable without the labyrinthine transport network. Some of the significant aspects of this modern trans-

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[15] *Ibid.*, 21 July 1987.

[16] C.T. Kurien in his *Poverty, Planning and Social Transformation* (Bangalore: Allied Publishers Pvt. Ltd., 1978) discusses the "Top Ten Percent" economy.

[17] Schumacher, *Small is Beautiful* (Perennial Library, Harper & Row, 1975), p.164.

[18] Somen Das, *op.cit.*, p.141.

port system—commercialisation, speed, obliteration of territorial boundaries, luxuriousness, pollution and detraditionizing — are the consequences or concomitants of development.

a) Commercialisation

The chief target of modern transport is lucre. For example, the Indian Railways is the lifeline of the nation, the principal mode of transport in the country. It is said to be Asia's largest and world's fourth largest railway system. Within the country it is the biggest public undertaking. Even this system, solely managed by the government,is run mainly for the revenue it brings through its freight traffic. For example, in 1982-83 the revenue from passenger traffic was Rs.1028 crores as against the revenue from freight traffic which was Rs.2,865.9 crores. What sort of goods? Whose goods? Obviously, the transport system is meant to support and develop the megatechnological infrastructure of our economy.

b) Speed

Today we are awaiting the invention of a vehicle that will be faster than all those invented so far. Speed has become a virtue in itself. Development has come to mean speed also. Earlier, transport was used with more discretion than it is now. Slow, medium and fast transports were available and whichever suited the occasion was used.

c) Obliteration of boundaries/distance

Modern transport does not respect the boundaries of human settlements. With no formal announcement or civility any vehicle could surprise the occupants of a place with its wagonload of strange, anonymous faces. The basic privacy of a community is scorned.

By means of increased speed and wide coverage, modern transport has almost obliterated distance. This grotesque monster seeks to liquidate space by relativising, to a degree of absurdity, such spatial categories as nearness and farness. If there is one clear analogue of the mind of the modern man it is the modern transport labyrinth.

d) Luxuriousness

Very often modern transport is not at all a necessity. People indulge it for pleasure. Mark the words: luxury coach, luxury liner, pleasure car, pleasure boat, pleasure drive, joy ride and many other such. Addiction to such transport makes the modern man not only more hedonistic but also lazier than ever.

e) Pollution

Modern transport, unlike its earlier counterpart, is extremely pollutive. The exhaust and the noise are no small threats to our environment.

In contrast, traditional transport was not commercial and speed-oriented; it respected the boundaries of human settlements and the categories of remoteness and proximity; it was not indulged in the manner it is now and was never a threat to the environment.

A cursory review of the consequences of the modern concept of development shows how this concept has been detrimental in ways more than one. Is there an alternative to such a concept? Now we shall address ourselves to this question.

D) The alternative: de-development or traditionization

True development consists in getting rid of the modern notion of it, in other words, *de-developing* (de- "to get rid of" as in decapitate, desilver, deaspirate). Unless we make bold to get off the development bandwagon, we are sure to meet disaster.

a) Tradition: the alternative

If we abandoned development, is there any other alternative conveyance to reach our proper destination? This alternative is *tradition*. Schumacher hints at it: "If new economic activities are introduced which depend on special education, special organisation and special discipline such as are in no way inherent in the recipient society, the activity will not promote healthy development but will be more likely to hinder it. It will remain a foreign body that cannot be integrated..."[19] The modern scheme of development arrogates upon itself the task of imparting special skills and information which are not rooted in the society in question, and so like foreign bodies rot the entire society.

Instead of imposing special ideas and programmes upon the innocent people we must first of all know what is inherent in the society for there is no society which does not have its own wisdom to sustain its (good) traditions. Such inherent wisdom that is passed on by one generation to another is what we may call tradition. And true development, consists in *making visible* what is already there, namely, its tradition.

b) Traditionizing

In order to de-develop, we do not need to find means to get rid of development. Instead, we may achieve much the same end by making vis-

[19] *op.cit.*, p.169.

ible the inherent traditions of the society. So, de-development is nothing but the process of reviving the traditions.

To know and to practise one's tradition may now be called 'traditionizing.' There may be a need to know one's tradition, especially when it has become discontinuous. In order to know it one may have to make effort and also, perhaps, face odds.

It is not enough to merely identify and know one's tradition, one must practise it in everyday life. The traditions in the various institutions like economy, polity, family, communication and religion should be discovered and translated into praxis. For example, a postcolonial people who have either totally lost their first language (L_1) or allowed it to be denatured, but acquired a marvellous but pretentious proficiency in a foreign language may need to work very hard to acquire the first tongue they had lost.

Practice of a tradition that was considered lost may be very painful; it may ostracise the practitioner. People may look upon this attempt at recovery as a ludicrous one. When discouragement comes from very close quarters the attempt may prove to be very agonizing indeed.

c) Traditions good and bad

All traditions may not be good after all. So it is important to identify the good ones before we set to revive and propagate them. Now, how to identify the good ones? Here, antiquity alone may not be the deciding criterion. According to the most ancient Tamil treatise on grammar, namely, *Tolkāppiyam*, such traditions as *approved* by noblemen are good and they deserve transmission. (III. 9.94).

d) Approval

Approval of traditions consists in self-criticism, revision, and making allowance for genuine novelty. Self-criticism may guard a society against fanaticism, ethnocentrism, obscurantism and also hostility towards the traditions of others. To be truly self-critical is to recognise the inviolability and inherent worth of the other traditions. Proper revision and renewal are also necessary components of approval. This may require discarding some worthless ones and borrowing some new ones. True traditionists (the noble elders) did not hesitate to disapprove when necessary. They were also not insular but judiciously checked factors like power (political or economic), prestige and ignorance which may promote borrowal. They proscribed mere fads and slavish imitations. They decided what/when/how to borrow and considered how unlike a foreign body, the borrowed material may integrate with the indigenous traditions.

When traditions were subjected to approval the heirs to these took a legitimate pride in possessing them. Instead of making them ethnocentric or fanatic they made them understand and appreciate the worth of the traditions of the others.

Conclusion

So far we have shown how in our own times the key notion of development which has unfortunately come to mean growth and expansion, has been supported by some assumptions that have not been taken with due seriousness; we have also shown how this notion has wrought consequences which are indeed unfavourable. Almost near the brink of disaster, without losing hope, we could if we wished,still turn to our traditions that are noble and, surely, save ourselves. But will we?

For discussion

1. Could you identify one instance of modern economic developmental venture in your locality? How do you know it is one such?

a. What kind of strategy (catching up or selection or some other) was adopted?

b. Has megatechnology been used in this case?

c. Do you think it is possible to de-develop in this case? If no, why? If yes, what measures will you recommend?

d. How do you think the traditions in this case could be revived?

e. How will you mobilize opinion, if necessary, on this matter?

LIVING IN TUNE WITH NATURE

S.N. Ghosh

Since the conquest of Nature took giant strides in the twentieth century and more particularly during the World War II, its devastating effects came to the fore and have been accelerating since the forties. Now, mankind shudders at the prospect of the thinning of the stratospheric ozone layer; melting of the icecap; chilling or warming up of the planet beyond the endurance of living species; nuclear holocaust and chemical holocaust. This has compelled rethinking about living in harmonious relationship with Nature and given rise to worldwide ecology movement. Ecology is now on everybody's lips. But this has not turned the tide. The rate of the annual destruction of environment is faster than its restoration.

Worse still, the ecology movement is being subverted from within. The subversion is caused mostly by the failure to understand that environment cannot be saved by piecemeal efforts at conservation or by the aesthetics of the upper classes. The upper classes grieve over the disappearance of groves but not over the deprivation of famished faces. It is this lopsided attitude that has become an obstacle to the spreading of awareness about ecology among the people. A genuine ecology movement needs the concept of a lifestyle attuned to organic relationship with Nature, the vision of an alternative civilisational pattern, and the know-how to crossfertilise this philosophy with ecologically sound technologies capable of meeting people's genuine needs in every sphere. An ecology movement without these attributes is a deception, an exercise in creating illusions.

In India, too, we have been witnessing a mockery of environmentalism. There are people in high places who would in the morning sing paeans to biosphere reserves in the name of ecology and in the afternoon commission nuclear power plants or superthermal power plants or big dams in the name of scientific and technological progress. Ecology movement is superficial if it is not informed by the perspective of and linked with a programme for the liberation of the oppressed.

Unfortunately, there are several kinds of environmentalism. The first one safeguards industrial and commercial interests which seek to continue the pollution-creating, concentrated energy-based pattern of technology in production system. These environmentalists want merely some landscape and waterscape amelioration measures to satisfy their

aesthetic sense, to create market demands for new mechanical devices to counter air pollution. That natural processes and ecological principles can be so incorporated in the pattern of production as to minimise pollutant generation does not interest them because it would not serve the commercial interests of big corporations.

Then, there is another kind of environmentalism which is the favourite of the establishment in countries like India. It wants to cleanse rivers of visible pollutants and organise 'forestry' by planting saplings of a dozen varieties while allowing the destruction of natural forests of immense bio-diversity in the name of 'development'. That the none-too-visible agro-industrial chemicals flowing from fields and factories may be even more harmful; that the planting of a dozen varieties is no substitute for natural forests; that the emissions from chemical plants or large thermal power plants may destroy the forests, choke the rivers, destroy aquatic life and create health hazards for the people around; and that big dams for massive hydel generation invite ecological disasters and make beggars of the oustees (mostly tribals), do not trouble the conscience of the practitioners of this kind of environmentalism. They have no need to search for unglamorous alternatives even if these may serve the social purpose better; they prefer only the devices which lend themselves to centralised manipulation. They are only keen on progress on the western model heedless of the signals of its environmental degeneration.

The third kind of environmentalism fights consistently against anti-ecological projects such as big dams, nuclear power plants and the quarrying activities which dry up springs and choke rivers with debris but does not relate these struggles to any concept of alternative civilisational pattern. This school remains taciturn about the lifestyle of simplicity. It refrains from emphasising (i) that high-energy use leads to high entropy and high inequity, and (ii) that development should be based primarily on renewable forms of energy and biological resources.

Then, there is a thoroughgoing environmentalism which views things holistically. It seeks to link the movement for ecological preservation with mankind's survival and liberation of the oppressed. It seeks an alternative lifestyle, alternative science and technology, alternative politico-economic concepts that are based on universal love and harmony. It visualises a production system based on natural processes and techniques which serve to continually improve the resource base, rid people of drudgery and back-breaking labour. It will not turn human beings into faceless units of the work force. The consumption system it seeks to establish is the least tinged with commercialism; its principle being, "no export until the bare needs of all within the local community are met". Ecology is

unsustainable without a communitarian system. Environmentalism is incompatible with a technology which pushes out more and more people from access to resources for production of life's sustenance.

Nature's processes and ecological principles

There is a misconception that the basic natural process is a struggle between the species for survival. This misconception had its origin in Charles Darwin's theory of evolution which laid lopsided emphasis on competition and overlooked the role of cooperation in Nature and its evolution.

The following are the basic ecological principles we need to take note of before choosing our pattern of living:

1. Nature is a whole piece, as intact as a cell, in which everything is in close linkage with everything else. The infinitely small particles, the "energy grains," form into atoms, molecules, compounds, colonies of organisms and finally into the apex of the ladder, Man. Then, the individual, who is a grain of human society gives rise to a global community.
2. Nature does not tolerate the uncontrolled growth of any one species in relation to (a) the other species of creation and (b) the carrying capacity of an ecosystem. Nature always works towards a balance.
3. The biochemical systems exchange matter with their surroundings all the time. In other words, there is continuous communication (i.e., sharing) between living things and their environment, as also among all things living in that environment. An intricate web connects all life in an area into one vast self-maintaining system. Each part is related to every other part and each is related to the whole.
4. Recycling, symbiosis and antibiosis are the fundamental processes through which Nature maintains its creation. There is recycling between land surface, water surface and the atmosphere in the global system as well as in the microenvironments. There is recycling between soil, plant and animal kingdoms. The hydrological cycle, the cycles of minerals are different aspects of this recycling process. The energy flows are not exactly cycles, because the used energy gets degraded and becomes entropic. There are also symbiotic and antibiotic relations between plants and plants.

The principle of recycling demands that since we take nutrients from the soil through the plants we must give back to the soil our bodies' waste products in a form which is beneficial to the soil. Even if a country had one hundred times the petroleum reserves of Saudi Arabia, it would still need to put into its soil the composted waste products to replenish it. It is for this reason that a Nobel Laureate in bioscience once said: "Mankind may perhaps survive atom bombs but it will not survive flush toilets." This is because flush toilets impoverish the soil and break the biogeochemical cycle. Microbial treatment of waste water for reuse is being practised in many countries. This is an example of recycling.

Even as recycling is a fundamental principle, symbiosis and antibiosis, too, are Nature's basic principles. Cultivating cereals or other kinds of crops with legumes, growing food for humans and fodder for cattle are examples of symbiotic relationship yielding a larger food package. Paddy culture, fish culture and duck rearing can be practised simultaneously on the same farm, with improved result for each. At Auroville,[1] algae culture and fish culture in the nutrient medium of human and animal urine and sea salts in a freshwater shallow pond, stirred continuously with wind-driven paddles, yielded several times the per acre production, which was also superior in quality. This gives the lie to the propaganda that chemicalised farming is unavoidable for feeding the hungry population.

The neem derivatives, which have now been found effective against 123 species of insect pests are examples of application of natural antibiosis. Control of mosquito larvae by fish which feed on them is another example of natural antibiosis which is also known as biological control.

The greatest obstacles to the philosophy and technology of living in harmony with Nature are the so-called 'modern' science and technology, which are, in fact, fragmented science and machinist technology. Yet, these have acquired the halo of an overriding religion and a superideology. We need, therefore, to go deep into the philosophy, methods and application of modern science and technology.

'Modern' science has been following Francis Bacon's philosophy of science in part. He defined knowledge as power and wanted to lay the foundation of power for the edifice of science. However, his exhortation to approach nature in an integrated manner has been totally forgotten, and so was his dictum that "Nature cannot be commanded except by being obeyed".

[1] A village in Pondicherry, South India.

Bacon's rider fell by the wayside under the impact of his exciting call to use science "to extend the power and domain of the human race over the universe." His contemporary, Rene Descartes, a French philosopher, took this power concept to a still higher pitch by his call to humans to be the "masters and possessors of Nature." This placed science on power track. It has come to view natural systems for its own purpose of control.

Modern science is reductionist. Reductionism is the procedure that reduces complex data to simple terms. Reductionist 'modern' science has acquired a tendency to seek ways which are grandiose and expensive. Bioscience had once roused the hope that by new insights into biological processess, it will give mankind some inexpensive means to solve the problems of life. It has now taken the road to biotechnology which is based on industrial processes that are necessarily expensive. A geneticist produces an organism for skimming oil spills on the sea and this is advertised as opening new possibilities of science, obscuring two vital truths: (i) that this very mode of science and its technological arm have been causing the extinction of untold numbers of plant and animal species every year, and (ii) that since man cannot direct co-evolution of the other species, none is in a position to anticipate the effects that the genetically engineered species will produce.

Reductionist medicalism has been causing widespread drug-induced diseases. Drugs in many cases have saved lives immediately but the longevity they have achieved has been at the cost of a vegetable-like existence drained of vitality.

Reductionist science has dangerously limited the genetic diversity of cattle by injecting semen from a proportionately much smaller number of bulls. An instability is thus built in with the prospect that epidemics can wipe out large herds of cattle. Crossbreeding with exotic cattle, without concern for the adaptability (of the offspring thus bred) to our environment increases this instability.

An example of how reductionist science can lead to two diametrically opposed directions may be given here. Veterinary scientists have been promoting crossbreeds which yield more milk and also eat more. At the same time, forest scientists are increasingly growing types of trees (e.g. eucalyptus) which cattle cannot browse. Fragmented science is thus increasing the demand at one end and reducing the supply at another. Such stresses are being created in every field of land-related and water-related developmental activities.

A few facts concerning water, land and energy, the very basic aspects of life in India, will reveal the direction in which 'modern' science and technology and its associate, namely, commercial culture are taking this country.

In the high hill areas of North Uttar Pradesh, once the home of numerous springs and sources of streams, the Government has now to send tankers to supply water in the dry season. The water of most rivers which was crystal clear is now muddy and laden with toxic chemical substances. According to a report of the National Environment Engineering Institute, about seven years ago 70 percent of India's water resource was polluted. The situation must be worse now, except in some parts of the Ganga where concentrated attention is being paid, at great financial cost, to partially cleanse the water. However, the rivers everywhere continue to be filled with pesticides and other chemical washings from the fields.

Out of our 266 million hectares of land which had production potential, 175 million hectares, i.e., 66 percent was degraded. This was revealed by the Sixth Plan document; the situation must be worse now. The annual loss of topsoil by water action alone, which was estimated at 6,000 million tons in 1972 has now risen to 12,000 million tons.

Nuclear energy is often proclaimed as the solution to the energy crisis. But nuclear scientists have so far been evading an answer to the criticism that nuclear power will have no chance if the criterion of net energy output is applied to it. Some internationally known energy specialists have expressed the opinion that if all the energy expenditure on the various processes—the search for, and mining of, a uranium ore; transportation and refining of the ore; making of pellets, fabricating and transportation of fuel rods, the construction and operation of nuclear power plants, the reprocessing of spent fuel, the ultimate disposal of the radioactive wastes and also the surveillance over burial sites of the decommissioned plants for a quarter million years—is taken into account, the emerging picture will be one of a net deficit balance of energy. George Wald, the grand old man of science and Nobel Laureate, says that only a country which seeks to invite energy bankruptcy in addition to financial bankruptcy will opt for nuclear power. Accidents like those that occurred at Chernobyl and in Three Mile Island would necessitate multiplying fortifications and safeguards at great sacrifice of energy.

Still nuclear scientists are going the same way. The twin benefits from fast breeder — namely, the yielding of more energy than is consumed by it; and the minimisation of plutonium content in the wastes from non-breeder reactor — are being advertised. It will be interesting to know which of the dozen fast breeder reactors in the world has produced how

much power and for what length of period. Nuclear scientists all over the world have adopted one tactic. Since they do not have any valid answer to the problem of radioactive waste disposal or to the problems posed by the intensely radioactive fuel for breeders (too high in fissionable content to be handled without criticality of accidents), their stock answer is that science will solve all these problems in future. This is the return of 'mythologisation' which science had promised to dispel.

The basic questions we have to ask are: what kind of life do we want for ourselves? Should we opt for an acquisitive and consumerist life-style in the name of higher standard of living or should we regard this as biologically sickening, socially wasteful and spiritually degrading? A lifestyle with no limit on material enjoyment is unhygienic gluttony; it also involves a rapid depletion of the earth's finite resources, a high level of pollution which shortens lives, and deprivation of bare needs for increasingly large numbers of fellowmen.

But can all the food required for a growing population, even on an austere standard, be grown by natural organic farming? Do we not require chemical fertilisers, pesticides, irrigation water, electricity — hence, chemical plants, big dams and large power plants? Where will we house our growing urban population? Can we afford to dispense with automobiles and jet planes and still exist as civilised people in this age? If we require all these, do we not need large plants for their manufacture and also some mother industries to make the machinery for these?

If man could promote his humanism by assertion of his freedom from nature, these would be welcome. What happens in practice is quite the opposite. First, in seeking freedom (in fact, alienation) from nature, man alienates himself from his neighbours and ultimately from himself. Self-alienation, personal void and the state of war with oneself lead only to self-destruction (like suicide). Secondly, efforts to conquer nature involve innovations of greater force-oriented application. This will require increasingly complex organisation, which will weaken the basis of free cooperation and moral sanction for social discipline and strike at the very basis of man as a moral being. Thirdly, nature-conquering technology reduces the masses to servility initially and destruction ultimately.

Nature-harmonic pursuit of knowledge can save life from extinction, bring about a renaissance in science and open up common people's access to resources. This can make possible a federalism, embodying people's self-governance at village and block levels. This can make participatory democracy at these two levels the foundation and the pillars for the superstructure of representative democracy at the district, state and federal levels and proclaim the sovereignty of each level in its defined

sphere. Participatory democracy can never take shape when the local community is made overly dependent on external inputs such as agro-chemicals, irrigation water from big dams, and electricity generated afar. Villages, based primarily on local ecological resources, with facilities for global communication can be the real global units.

This harmony of the local and the larger community (as distinct from dominance by the so-called Centre), of man and Nature, of individual existence and cosmic consciousness based on the recognition of organic relationship with all creation, animate and inanimate, is the key to man's freedom and self-fulfilment.

For discussion

1. What are the four kinds of environmentalism? Attempt a criticism of each.

2. Will you argue that modern science is not to blame for the degeneration of our environment, for it is, after all, a neutral tool in the hands of a scientist who could use it either well or ill? If you will, do you think this argument is sufficient to counter the position of the author?

3. List out a few ecologically sound alternatives for an industrial product you use daily.

4. Take up an environmental issue and chalk out an action plan to create an awareness of the issue among the local population.

PESTICIDES: PROBLEMS AND PROMISES

Wilfred Sugumar
Alexander Jesudason

Introduction

It is estimated that there are about three million species of insects. Of these only about 200 have been classed as serious pests. These pests cause damage to agricultural produce and spread human or animal diseases. In India, Rs.6,000 crores worth of agricultural produce is lost annually, due to pests and diseases.[1] Thus in the task of assuring adequate nutritive food for the growing population, pest control methods acquire importance.

Pest control methods

Pest control broadly includes all measures that are employed to make life hazardous for the pests; they may in the process destroy the pests. These measures may be broadly classified into two types: (a) natural control measures; and (b) applied control measures.

Natural control

Natural control includes all measures that will check or destroy pests through an interplay of factors such as climate, wind velocity, temperature changes, insect preys and diseases of pests. Nature does not allow the indefinite increase of any species. For example, a pair of houseflies will give rise to 1,910,000,000,000,000,000,000 houseflies within six months, if there were no natural control.[2] Each species of pests is allowed to survive only under one or two climatic zones. Within a zone, humidity, rainfall, sunshine, temperature, etc. affect the multiplication

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[1]S. Jeyaraj, "Pest Control—Advances in biological means," *The Hindu Survey of Indian Agriculture* (Madras: S. Rangarajan, 1989), pp.181-87.

[2]U.S.Sree Ramulu, *Chemistry of Insecticides and fungicides* (New Delhi: Oxford and IBH Publishing Co., 1979), pp.7-14.

Even though natural control takes a heavy toll of pests, the increase in quality and quantity of the crops has given rise to favourable conditions for the spread of these pests. In addition, changes made by man in the ecosystem have minimised the effectiveness of this method to a great extent. For example, the population of field mice is kept at a tolerable level by the rat snakes. As most of these rat snakes are killed for their skin, nature's control mechanism failed, leading to an escalation in the population of field mice. Nature's intricate system works most consistently when the community is diverse and its members interrelated. Loss of diversity has turned innocuous insects into pests and this has necessitated the application of various applied control measures.

of pests. Topographical variations affect the spread of pests. The natural enemies and diseases of pests also help check them.

Applied control

These measures are mainly used for the control of pests which have escaped the repressing influences of natural control. These can be further classified into five types. They are:

(i) mechanical/physical control

(ii) cultural control

(iii) biological control

(iv) legal control

and (v) chemical control.

(i) Mechanical/physical control involves catching of pests in traps and killing them manually; cutting and burning of diseased plants; or providing unfavourable conditions for fungi growth. Some of these measures are costly and their success is not always assured. Moreover, these methods can be applied only after the occurrence of pests and sufficient damage might have already been done to the crops by that time.

(ii) Various 'cultural' methods can be used by the enlightened farmer to ensure continued productivity, without relying heavily on other control measures. Soil conditioning like ploughing and exposure of it to sunshine and natural enemies of pests, rotation of crops and improved sanitation practices can often avoid pest problems. Continuous raising of a particular crop will lead to multiplication of a number of pests. If this could be avoided the population of the pest will be checked appreciably. This strategy, which deprives the pests of their food is called "crop moratorium". The pests that are likely to damage an economic crop may be diverted to another crop (known as "trap crop" or "target crop") so that the former could be saved. A preferred target crop may be planted to lure away the insects from the economic crop.

(iii) Biological control involves the introduction, and artificial increase of the natural enemies of pests like insect parasites, insect predators and pathogens. For example, pathogens such as fungi, bacteria and viruses can be introduced to cause insect diseases if enough is known about the possible effects on species (nontarget) other than the one (target) they are meant to attack and control. These measures are highly specific, generally inexpensive and have long-term control. They are considered to cause no pollution and pose no risk to human health. However, these are effective only if they are used at the critical time. Further, because of the specificity in their action, they do not enjoy wide application.

A more sophisticated method uses the insect itself for its own destruction.[3] The pest can be controlled by releasing sterile male insects. Insects can be reared in the laboratory, sterilised by radiation and released during the mating time to compete with natural fertile population. As a result the chances of a fertile male insect mating with a fertile female insect are reduced. This method will be effective when used in conjunction with the other types of control.

(iv) Strict laws can effectively curb the introduction of new pests and diseases into a country. This method can only prevent the spread of pests from one region to another and does not lead to the destruction of pests as such.

(v) Chemicals have been used to control pests even in prehistoric days. Homer has spoken of fumigation with sulphur. In 900 AD the Chinese were reported to have used arsenic for insect control. Pyrethrum (Persian insect powder) has been in use for insect control. The biggest surge in the development and use of synthetic pesticides has occurred in the last fifty years.

What are pesticides?

Pesticides are toxic chemicals which can kill the pest. These are classified into various groups depending on the particular use for which they are intended. Chemicals which kill insects are called insecticides. Likewise, chemicals used to kill nematodes, mites and rats are referred to as nematicides, acaricides and rodenticides respectively.

These pesticides are formulated (converted into usable form) and then used. They may be in the form of dusts, granules, wettable powders, solutions etc. With the introduction of these pesticides, farm practices have been revolutionised and crop yields increased. Insect-borne diseases like malaria have been brought under significant control.

Yet new problems have unexpectedly resulted from the excessive use of pesticides. Some increases in crop yields turned out to be short-term effects. The pesticides killed both target pests and their natural predators. The pests after sufficient exposure to the chemicals developed resistance and subsequently there was an increase in their population. Increased and indiscriminate use of insecticides has also affected the environment. Residues of persistent pesticides contributed significantly towards contamination of air, water, soil and food.

The people are exposed to pesticides when they consume articles of food which are contaminated with pesticides. In order to regulate pesti-

[3]Lucy T.Pryde, "Chemistry of Pesticides," *Foods and Drugs*(California: Cummings Publishing Company, 1973), pp.233-36 and 261-69.

cide residue to safe levels, the Joint Meeting of Pesticide Residues of the FAO and WHO of the United Nations have laid down principles for arriving at the maximum residue limits of pesticides in food. Any commodity bearing pesticide residues at levels considered to be dangerous is confiscated. Subsequently, the maximum residue limits of twenty pesticides have been fixed on some important food commodities in our country under the Food Adulteration Act 1954 amended in 1971.[4] The following table gives some of the common pesticides and their tolerance limits:

Name of pesticide	Tolerance limit
pyrethrum	10 ppm *
DDT	3 ppm
BHC	3 ppm
methoxy chlor	3 ppm
malathion	3 ppm
methyl bromide	50 ppm as bromine

* Parts per million (1/1,000,000)

Pesticide residues of DDT, HNL and other chlorinated hydrocarbon pesticides have been found in vegetables, milk, oil, butter and meat as well as in mother's milk.[5]

Origin of pesticide residues in animal products such as milk and meat is considered to be associated with contamination of animal feed.

Most of the pesticides used ultimately find their way into the soil. Only a portion of the pesticide residues found in soil result from direct application, others do from spray fall-out by rain, dust, atmosphere, and crop and animal remains.

Pesticides can reach aquatic environment such as rivers, lakes and oceans by various routes. These may be (a) surface run-off and transport from soil treated with pesticide, (b) industrial waste discharge, (c) spray drift from agricultural practices and (d) atmospheric transport.

For example, DDT is very mobile and is capable of transatlantic movement as demonstrated by G.M. Woodwell.[6]

Indian scene

In India chemical control has largely replaced the traditional

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[4]M.Swaminathan, *Essentials of Food and Nutrition*, vol. II, 2nd ed. (Bangalore: Bangalore Printing and Publishing Co. Ltd., 1985), pp.543-45.

[5]Ruth Moore, *Man in the environment* (New Delhi: McGraw Hill Publishing Company Ltd., 1975), pp.37-40 and 94-96. See also U.S.Sree Ramulu, *op.cit.*

[6]G.M. Woodwell, P.P. Craig and H.A. Johnson, "DDT in the biosphere: Where does it go?" *Science*, Dec.1971, (174), 1101-07.

method of control. The use of synthetic pesticides has increased from a mere 460 tonnes in 1954-55 to 144,625 tonnes in 1983-84. DDT, a banned pesticide in other countries, is still being used in India as it is ten times cheaper than many other pesticides. The indiscriminate use of pesticide has damaged our ecosystem. Use of synthetic pyrethroids (pesticide) in recent years caused a severe whitefly outbreak in cotton in Gujarat, Andhra Pradesh and in parts of Tamil Nadu.

Integrated pest management: A possible solution?

The future of agriculture in India depends on the sustainable management of land, water, flora, fauna and atmosphere[7] which are threatened, unfortunately, by excessive use of chemicals. Hence, strategies which can help maximise the benefits from the existing agricultural assests have to be developed. One such step is the adoption of Integrated Pest Management (IPM) which consists in the blending of all the methods necessary to achieve effective control and to minimise environmental damage. This involves the conservation of biological diversity and a shift to biological control from chemical control. Already India is moving in this direction with the setting up of biological control laboratories all over the country. The main Biocontrol Laboratory of the Tamil Nadu Cooperative Sugar Federation, near Chingleput supplies the egg parasite *trichogramma* for control of sugarcane bores. It has been found to control the pest effectively. Thus IPM holds the key to increased agriculture production with least damage to our environment.

For discussion

1. Lack of basic information on natural enemies of pests is a serious handicap in pest management. Comment.

2. Who derives more benefit — manufacturers of pesticides or agriculturists who use them? Investigate.

3. Could you identify some methods of controlling pests mentioned in your native tradition?

4. Which pest control methods are in use in your locality? Do you know why they are favoured?

5. Norman Borlaug, the father of the green revolution once compared chemicals to automobiles. Both, he said, are dangerous when improperly used. Is this position acceptable to you? If yes/no, why?

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[7]M.S.Swaminathan, "Ensuring ecological Security," *The Hindu Survey of Indian Agriculture*(Madras: S. Rangarajan,1989), pp.17-21.

ALTERNATIVE ENERGY SOURCES FOR THE FUTURE

Mangalaraj Arthur

The world has awakened recently to the realisation that we are facing three related major problems — environmental pollution, the depletion of natural resources and population explosion. Fundamental to these is the potential shortage of energy and it will be taken up for discussion in this chapter.

Historical evidence shows that a civilization's progress depends on its energy consumption. Energy is all-pervasive in our economy. Every activity, directly or indirectly, involves the use of energy, and expenditure on energy accounts for a sizable proportion of the total national income.

Initially, this energy was provided by human labour or muscle power both human and animal and the sources for this power are still of prime importance in most parts of the developing world. Power from wind and moving water has been employed since the dawn of civilization. In medieval Europe and many other parts of the world, wood was utilized not only in many types of construction but also in most domestic and industrial heating. The transition from wood to coal as the main source of heat was part of an early British economic revolution. The first energy crisis was one of deforestation when the countries ran out of wood and resorted to coal. The adoption of coal first changed the economic history of Britain, then that of the rest of Europe and finally the world. Then there followed an enormous expansion in the consumption of natural gas and oil for heating, electrical generation and transportation. Electrical energy derived from consumption of coal and oil was used for an increasing number of purposes because of its versatility, cleanliness and ease of distribution.

Modern man is using the resources at such a rate that their exhaustion within a few centuries is likely. This may seem to be a long time in terms of a lifetime or even a generation, but in the span of man's history, it is a very brief period. The use of any resource increases as exploration, extraction and consumption increase. Eventually a point is reached at which costs of securing the resource increase to a prohibitive level, and its use declines to nearly zero level.

Alternative and supplemental sources of energy

If the world is to solve the long-range energy problem, some new

practices to make optimum use of the available energy must be followed. New sources of energy must be discovered and developed with efficient technologies. There are two types of energy technologies and resources, namely the 'alternative' and 'supplemental'. From a utility standpoint, an alternative energy source or process is one that is capable of replacing a conventional electric generating plant. Therefore it must be completely reliable and transmittable.

There are a number of new energy technologies which do not have these characteristics because the nature of the resource they depend on is such that without some sort of storage facility which, at present, is very expensive, they cannot completely replace the existing system. These resources may be called supplemental. That is to say, they can supplement, for example, the present electric generation system but cannot act as alternative processes and resources. Wind energy and solar energy may be listed as examples of supplemental source, whereas biogas and geothermal energy may act as the alternative sources in the rural energy system.

Solar power

Energy from the sun has the potential of being a major contributor to the solution of the long-range energy problem because of its inexhaustible nature. For applications such as home space heating and water heating it is practical in many areas of the world. Schools and dispensaries, and many farms and houses, use a lot of hot water, and heaters use a lot of fuel — far more than is required for lighting, running pumps, or similar purposes. In the design and construction of new housing and public buildings, installation of solar systems is appropriate. Advocates of solar energy often call attention to the fact that the energy is 'free' and that its use helps save fuel considerably. However, solar heaters can be expensive. They must be carefully designed so that the expensive materials from which they are constructed are used to best advantage.

Solar heaters are most effective where a large quantity of water is to be heated over a moderately small temperature range. Even though a simple solar heater cannot raise water to temperature high enough for such tasks as cooking it may still be worthwhile for preheating the water.

Wind energy

It is possible to generate electricity using the power of the wind. Possible wind generators vary from very expensive models looking like aircraft engines with huge rotors to tiny home-made versions driving a bicycle dynamo. All rely on the same basic principle. Murugappa Chettiar Research Centre at Madras is dedicated to the task of developing devices for meeting the energy needs of the rural poor through the use of renew-

able energy sources. One of the devices that the centre has designed and developed is the low-cost wind mill, POGHIL, which has proved to be very effective in achieving the basic objective of the centre — to encourage local skills and the use of indigenous materials so as to keep down cost even if it would mean sacrificing efficiency.

Biomass

Biomass is the term used for materials of plant or animal origin either in the form of waste or a crop grown for its energy content. In many rural areas of developing countries, especially in arid areas, there is shortage of fuels such as firewood and oil, but a surplus of cattle dung. The latter can be used to produce fuel by mixing it with water and allowing it to decompose in an airtight container, a process known as "anaerobic digestion". In this process it gives off gas, commonly known as biogas, that contains methane. The sludge that remains after digestion can still be used as good quality fertilizer so that there is no waste. Biogas can also be produced by anaerobic digestion of other organic refuse provided care is taken to ensure the development of the correct bacteria during digestion.

Biogas is a clean high-grade, virtually all-purpose source energy that can be used, for example, for cooking, lighting, and driving machinery. The cost of installing a biogas plant and its need for careful attention are the main barriers to its widespread use at present. However, the gas costs after installation are negligible compared to other fuel costs. With better scientific and technical training of people in rural areas and research and development to reduce the installation costs, biogas generators could be an important source of energy in many countries.

Biogas is a fuel; that is to say, a readily usable store of chemical energy. Like all fuels, its effectiveness is determined by its "specific energy content" or "calorific value" which is the heat of combustion it releases when a unit mass is burned in air. The specific energy content of biogas is found to be 16 MJ/kg which is about 1/3 of that of petrol (51 MJ/kg).

A much greater mass of biogas is therefore needed for a particular task than would be the case with petrol. Biogas is not an easy fuel to use for vehicles. Large gas bags are needed on top of the vehicle to store the gas, and even then the vehicle will not be able to travel far. Petrol or diesel engines can be run with biogas and these engines in turn can be made to generate electricity or carry out other tasks requiring mechanical energy.

Geothermal power

Geothermal power, coming from the heat in the earth's crust, is available at a few sites, notably Italy and California, where the geological

formation favours the natural release of steam. The environmental aspects of this source of energy, such as saline water disposal and gas emissions, are not fully known, and the number of readily accessible sites is limited. There is a possibility, as yet unexplored, that the abundant heat of the earth could be tapped at many locations by drilling deep enough.

Hydroelectric power

Hydroelectric power is available when a stream can be dammed to provide a large reservoir, permitting falling water to turn a hydraulic turbine coupled to an electric generator. Hydropower sources are more important for developing countries than others. The developed countries have exploited most of their hydroelectric power, but only 8.6 percent of this potential has been utilised in the developing countries.

Tidal power

Tidal power is a less conventional method, in which water from the sea enters and leaves a restricted channel periodically, with each stream turning a turbine. Only one full-scale plant is in existence on the coast of France and there are a few other promising sites where tides and terrain are suitable. For the long-range energy need, however, this approach may not be adequate. (TEAM's plant at Marina, Madras, is built to exploit tidal power).

Nuclear Energy

In response to the problem of increasing dependence on fossil fuel some advocate a rapid expansion of nuclear power. But while it is the only single alternative to fossil fuels that has proved capable of making a major contribution to world energy supplies, it is very expensive. After more than a quarter of a century of development, nuclear power provides only a small portion of the world's electricity which itself accounts only for a small proportion of the total energy demand. Furthermore, the nuclear path is fraught with dangers. The intractable nature of many of the environmental as well as the social, political and technical problems, and the continued escalation in the costs, have led to widespread disenchantment with nuclear technology.

It is sometimes suggested that nuclear fusion has better prospects, but this may be as much wishful thinking as the early dreams of atomic electricity. The cost of the machinery that will be required is likely to make fusion wholly uneconomical. If fusion power can be made to work, the world might have unlimited supplies of inexpensive energy supplied by huge power stations. An unlimited supply of power from fusion reactors would make it easier to recycle waste and turn it into useful materials.

It must be remembered that recycling of waste materials will not be possible without considerable amount of energy.

Conservation

Restraint in the use of energy by individuals and organizations can have an important effect on the rate at which fuels are consumed. But this can be practised only by the more advanced countries without serious inconvenience since bringing the millions of people of the developing countries to an acceptable standard of living would mean increased rather than decreased use of energy.

The future

The solution to the energy problem is man's highest priority. If man is to survive, he must plan for long-range future and take positive action to ensure that the necessary resources are available for his descendants as well. Several basic concepts need to be fully understood by all.

Nonrenewable resources like fossil fuel, coal etc. are finite but the need continues indefinitely. We must improve our knowledge of the world's proved reserves. At the same time we must not forget the environmental constraints on the exploitation of the world's nonrenewable energy resources. The mining, processing, transport and combustion of fossil fuels have created serious environmental problems. For example, the continued combustion of hydrocarbons could cause irreversible climatic changes through the build up of carbondioxide. Again, overdependence on these fuels which are in some cases imported makes a country more vulnerable to political pressures from producer nations and multinationals.

Energy and money are required to develop new sources of energy.

Renewable resources are the best long-term alternatives. They have nothing to do with high technology, and energy production can be decentralised. Power would come from small units. Homes would be 'autonomous,' that is they would meet most of their own needs. They can often be constructed on, or close to, the site where the energy is required; this minimizes transmission costs.

Energy should be used wisely to provide basic human needs. Conservation practices are desirable for an equitable distribution of available energy.

What is the role of science?

It is extremely important that we reexamine the postulates and the basic thrusts of our science curriculum. The phrase "social relevance"

could produce a sense of unease in most science teachers. Has not science, as a part of the universal working tool for human advancement, always had a social relevance?

The more one ponders over this question the more strongly does one feel that science courses at the University level could be made explicitly socially-oriented. For example, there is no doubt that the serious issues of alternative energy sources which are enormously important for a developing economy need to be addressed by our Physics curriculum.

Is Physics value-neutral or coloured by ideological preferences? Today, the question of value-orientation must be looked at not from the standpoint of ideology but from that of social justice. The energy scenario today in India leaves one in no doubt that there is a vast disparity between the urban and the rural areas and within these areas, between the haves and the have-nots. When we talk about alternative sources of energy, nuclear, solar, wind power etc., it is not merely technology which we are dealing with, but a whole range of preferences and decisions which might aggravate or mitigate the unacceptable disparities in our society. Building knowledge of nonconventional energy sources into the curriculum is, therefore, not a mere mechanical process of incorporation of new textbook material, it is much more than that. What we need to do is to challenge the younger generation of Physics students—the future research scientists of our country—to think and work creatively so that a new order of use of energy for a higher level of efficiency and social justice may eventually evolve.

There is also another dimension to the value-oriented Physics education. Physics education in the past has generally remained in its own shell and was unwilling to look into cost-benefit issues. Assuming that through our courses in Physics we promote a high level of awareness of different energy technologies relevant to our development, the need for a substantial exposure to the economics of alternative energy sources must, then, be addressed. It may not be easy, but if we are to strengthen the value-orientation in our curriculum, we cannot afford to encourage an attitude of "cost no criterion" on the part of the younger generation of Physics students. The matter does not end here. How does government or society take rational decisions on how energy is priced? In a society of vast disparities, access to energy itself can operate as an instrument of enrichment or lack of access to energy as one of impoverishment. Issues of this kind are not alien to the teachers and students of Physics, although in the name of academic specialisation all these have been out of bounds for the Physics student in the past. Our task of redesigning our curriculum

boils down to this basic question. Do we have the willingness and the courage to demolish the needless compartmentalisation of relevant knowledge?

For discussion

1. Identify the different forms of energy use in your daily life. How economical are you in your use of these? Is your consumption necessary and justifiable? Debate.

2. Could you describe a case of politicisation of energy consumption?

3. We are told that the USA has only 7 percent of the population of the world "but has used up in the decade of the 60s more resources than the entire humankind in all previous history. The American way of life cannot be sustained in America itself and there cannot be another America." What are the ethical implications of this situation?

4. If you were to develop a programme for raising the awareness on energy consumption, what points will you include in it?

5. How could a course in Physics be designed so as to approach the question of energy adequately, relevantly and justly?

THE NUCLEAR PLANT AT KUTANKULAM

T. Shivaji Rao

Introduction

Man requires energy for his daily activities, transport, food production, economic growth and prosperity. About 40 percent of the energy needs of the people is met from noncommercial sources like cowdung, agricultural wastes, firewood and animal power, while the remaining 60 percent is met from commercial sources like coal, gas, oil and hydropower. Among the commercial sources, electricity is the most important and convenient one. Electrical power constitutes 18 percent of the total power at present and it may go upto 30 percent by 2000 AD. Nuclear power contribution is less than one percent of the total energy requirement of the country and plans are afoot to establish about 20 more reactors estimated at Rs.15,000 crores to increase the nuclear power contribution upto 10 percent of the commercial power by 2000 AD. Before embarking on such large-scale expansion of nuclear power it is pertinent to discuss the environmental and safety aspects of the proposed nuclear plants.

In order to discuss the nuclear power and its environmental effects, it is necessary to understand the fundamentals of nuclear power in the first instance. The atom which is the smallest unit of an element has a nucleus (containing protons and neutrons) encircled by electrons. When the nucleus disintegrates, radioactivity is set free producing particles and x-rays which ionise the atoms of any substance through which they pass. The ionization causes a chain reaction that damages the penetrated substances such as human cells.

In nature elements such as radium are unstable and tend to attain stability by disintegration or by emission of radioactivity in the form of particles and x-rays. Moreover, any element can be converted by force into another, by rearranging the atomic components. During this conversion of an unstable element to a stable one, enormous amount of heat is released and the same is used to heat the water to produce steam and then electricity. In this process a few neutrons and radionuclides are released into the human environment and they often cause pollution problems. When the nuclear fuel is fully utilised, radioactive wastes are produced. Usually these radioactive wastes are dumped into the ocean or buried in thick containers in abandoned mines. The only way to make a radionuclide least harmful is to enable it to disintegrate naturally until a stable

element is formed. The radioactivity of an element disappears after an equivalent time period of about ten times its half-life period or when its radioactivity reaches 0.1 percent of its original value. For example, a millionth of a gram of plutonium causes lung cancer and it remains active for 2,50,000 years. According to experts, even the natural radioactivity is not safe both physiologically and biologically.

Different types of reactors are used for generation of nuclear power. In India, the boiling water reactor and pressurised heavy water reactors are used at present. However we are going to import enriched fuel and the pressurised water reactor from the USSR for the proposed plant in Tamil Nadu.

Operation of a pressurised water reactor

A nuclear reactor like a coal-fired thermal power station uses steam to generate electricity. Instead of producing steam by burning the coal, nuclear reactors are fuelled by uranium, an ore mined from the earth and refined by various processes. Uranium has an unstable atomic structure which means that some of its atoms contain an unequal number of protons and neutrons in their nucleus. In nuclear power, other neutrons are used to bombard these unstable nucleii, causing them to split and thereby release more neutrons, a process called nuclear fission. When the freshly released neutrons hit the other unstable nucleii in the fuel, a chain reaction occurs. The massive heat energy released by this chain reaction is so intense that a single uranium fuel pellet of the size of a pencil eraser can produce as much heat as a tonne of coal. For efficient operation, proper control of this energy is essential and adequate precautionary measures must be taken to ensure that there is no disastrous core melt-down. For this purpose, the operators control the reactions by packing the fuel pellets inside hollow metal rods which are assembled to form the core. The fission process is manipulated by the control rods in the core that can be raised and lowered to absorb the neutrons. The reactor is filled with water to act as a coolant to absorb the heat of the reaction. The water which is kept under pressure reaches over 600°F and this is used to generate steam which like its coal fuelled counterpart is used to drive turbines to produce electricity. To prevent the escape of radioactivity the reactor core is shielded by a thick steel vessel, housed in an air-tight steel containment structure which again is surrounded by thick walls of double containment.

Pressurised water reactors

In a pressurised water reactor, the pressure vessel of the reactor is packed with the uranium fuel rods and is filled with water which not only transfers the heat generated during the fission chain reactions in the core

to the heat exchanger but also sustains the chain reactions in the fuel rods. The heat released from the fuel rods is carried by the coolant in the primary waterloop to the heat exchanger where it is used to convert the water in the secondary waterloop into steam which, in turn, runs the turbogenerator to produce electricity. As the fission products from the fuel are radioactive (and emit alpha and beta particles, gamma rays and neutrons that cause damage to living cells) they produce immediate somatic and long-term genetic damage among people exposed to the radiation (vide Table). Hence extensive precautionary measures are to be taken to ensure that the radiation from the fuel rods does not break the barriers of safety and get into man's environment.

Reactors at Kūṭaṅkuḷam

In order to utilise the heat generated during the fission of uranium, the Atomic Energy Commission proposes to establish a 2 x 100 megawatt (Mw)water-cooled and water-moderated reactors at Kūṭaṅkuḷam in Tamil Nadu. Here, the nuclear fission occurs in 100 tonnes of uranium oxide fuel in 50,000 close-packed fuel rods, the zirconium alloy tubes of half inch diameter. These fuel bundles, the reactor core, sit in a thick steel pressure vessel through which cooling water is pumped at 18 tones per second to carry away the heat generated during nuclear fission and use it to produce steam and electricity through a turbogenerator. The fuel gets yellow-hot at its core, attaining a temperature of 4100°F (2250°C) while the metal casing around the fuel is kept at 650°F (350°C) by the cooling water. If due to an accident the coolant water gets interrupted for just few seconds, the fuel temperature rises rapidly and the zirconium casing begins to break at 1800°F (1000°C) and melts at 3350°F (1850°C). The disaster can occur when the hot fuel begins to lump together in molten mass that can explode the containment or seep into the ground (which is known as "China syndrome") and release massive quantities of radioactivity into air, water and soil environment.

Safety of reactors

In order to avoid the core melt-down, experts have provided a series of safety devices. One major line of defence is emergency core cooling system (ECCS) which provides instantaneous water supply that keeps the core from melting. Another line of defence is the concrete containment that surrounds the core and the pressure vessel so that even during a loss of coolant accident, no radioactivity will escape into the outside environment. Such safety measures also fail sometimes.

If the main pipe in the primary cooling circuit breaks, immediately the control rods eliminate the nuclear fission process, halting the activity.

But the radioactivity in the already disintegrating fission products cannot be arrested. In a 650 Mw plant, the heat formation by radioactive disintegration process amounts to roughly 200 Mw three seconds after the reactor is switched off, 100 Mw after one minute, 30 Mw after one hour and 12 Mw after 24 hours.

Under normal operating conditions, the reactor has an external fuel casing temperature of about 350°C, while the interior fuel rods remain at 2200°C. If the cooling liquid is lost, the outer surface of the rods heats up rapidly within 10 to 15 seconds, and the fuel casing would begin to break down and within a minute, the casing would melt. Unless the emergency cooling system comes into operation within a few minutes, the fuel (approximately 100 tonnes) and the supporting structure would all begin to melt, leading to a major accident. At this stage, even if the emergency cooling system works, it will make the situation worse. The molten metals react with the cooling water to produce steam and hydrogen, and heat from the fission products adds to it, thus sinking the molten core to the ground. In a 2000 Mw nuclear reactor, radioactive fission products accumulated after a year would be equivalent to the amount released by approximately 1000 atom bombs of the Hiroshima variety. Since the reactor pressure vessel contains the core, any leakage (in the pressure vessel) in excess of the supply from ECCS leads to the escape of the coolant, thereby exposing the core that gets overheated within seconds. The failure of the vessel can inflict serious damage to the core and also break the containment.

Emergency coolant failure

According to the advocates of nuclear power, when the primary coolant comes out of the major pipe break in the coolant water loop, the control rods are immediately driven into the core to stop the fission reaction and the ECCS releases the cool water from the accumulators intended to cope with such emergencies. But environmental experts and opponents of nuclear power emphasise that by the time the emergency coolant water gets in the core, the temperature in the core would become so high that the water turns into high pressure steam, either obstructing the entry of more coolant or forcing it to exit through the breakage in the pipes so that the reactor core gets overheated to cause a major disaster.

When the Aerojet Nuclear Company conducted tests of ECCS at the National Reactor Testing Station in Idaho, USA, mechanical failure occurred. Subsequent tests at Oakridge National Laboratories indicated that the zircaloy clad fuel rods may swell, rupture and obstruct the cooling channel thereby preventing the emergency cooling water from reaching the reactor core. Fuel rod swelling commenced at about 1400°F and at

1880°F the coolant channels were partially or completely blocked and such a blockage could be catastrophic. The combined effect of the rapid cooling during an emergency core cooling, with the rapidly rising pressure in a reactor vessel could lead to its rupture, an accident that no nuclear plant is designed to cope with. Failure of the vessel could occur due to inherent weakness in the construction of the vessel itself or due to factors such as molten fuel coolant explosion or the gross failure of the vessel support system.

Places to be evacuated during accident at Kūṭaṅkuḷam

During an accident at the nuclear plant enormous quantities of radioactive rays will be emitted into the air, water and soil environment. As a result there will be immediate fatalities and long-term genetic damage among the exposed populations. All the people within the zone of influence from the reactors must be evacuated. Evacuation must be completed within 6 hrs for 2 to 5 km; 12 hrs for 5 to 25 kms; 24 hrs for 25 to 75 kms; and 40 hrs for over 75 kms.

After thorough scrubbing and decontamination of lands, equipment and residences due to radioactive pollution from an accident, people may be permitted to return to their original residence along with their cattle and other properties after 3 weeks upto 170 kms, 1 year upto 140 kms, 5 years upto 115 kms, 10 years upto 98 kms, and 20 years upto 77 kms from the nuclear plant. Depending upon the weather conditions during the accident, certain places will be more affected than others. If an accident were to occur at the nuclear plant site at Kūṭaṅkuḷam, many villages of Ramnad, Tirunelveli and Kanyakumari of Tamil Nadu and Trivandrum and Quilon districts of Kerala will be affected seriously.

The pressurised water reactors proposed to be built at Kūṭaṅkuḷam in Tirunelveli District of Tamil Nadu are inherently unsafe.[1] In these reactors, fuel rods of about half inch thickness attain temperature of 4100°F at the core while the casing temperature is maintained at 650°F by the cooling water. If the pipe breaks or water supply fails for just a few seconds, the hot fuel can destroy the metal casing which begins to break at 1800°F and melts at 3370°F. Although back up systems such as ECCS and concrete containment are expected to ensure that no radioactivity will escape into the outside environment during an accident, still the possibility of a core melt accident cannot be completely ruled out. Such accidents did occur in Three Mile Island and at Chernobyl plants.

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[1]American experts today claim that they have developed reactors whose safety depends not on mechanical or human intervention but on inherent physical principles.

Enlightened nuclear and environment experts have been warning the industry and the government to renounce the current generation of reactors stating that no matter how extensive the safety measures are, reactor machines are disasters "waiting in the wings."

Many leading nuclear scientists themselves have admitted that nuclear technology is hazardous and that we must consider other energy options. Dr. David Lilienthal, the first Chairman of the US Atomic Energy Commission has said that "nuclear technology is not dependable enough; it is not safe enough."[2] In many developed countries the installation of nuclear power plants has been banned and orders for atomic reactors have been cancelled or deferred.

Conclusion

Since the present generation of nuclear reactors are inherently unsafe, it is essential to make detailed environmental impact reports, risk-analysis and emergency evacuation and disaster management plans before clearance is given for locating a nuclear plant at a given place. The environmental impact reports must be prepared for various alternate locations and they should be presented to the public for organising scientific debates, so that constructive suggestions from the experts and the public can be received for incorporation in the final reports on which appropriate decisions can be taken by the Government. Such attempts should consider the various alternate methods of generating the energy including the option of "no nuclear power."

Table

Harmful effects of radiation

a) Dosage and damage to public health:

Dose (rems)		Effects
0-50	:	no visible symptoms except change in blood.
80-220	:	vomiting and nausea for one day besides symptoms of radiation sickness in 10 percent upto 120 rems; 25 percent upto 170 rems; 50 percent upto 220 rems.
270-500	:	vomiting and nausea on first day besides sickness among all people with 20 percent deaths within six weeks upto 330 rems and 50 percent deaths in 1 month upto 500 rems.
550-750	:	vomiting and nausea within 4 hours and deaths upto 100 percent.

[2] *Indian Express*, 15 June 1986.

b) Single high dose and late effects.

Cancer	:	of blood, nervous system and thyroid in excess of 100 rems; leukaemia incidence rises correspondingly.
Cataracts	:	lenses of eyes become increasingly opaque at 220 rems.
Fertility	:	brief sterility at 150 rems.
Degeneration	:	impairment of organ functions.
Mutation	:	rate doubled between 20 and 200 rems.
Life-shortening	:	radiologists have lowered lifespan by 5 years.

c) Chronic low doses : cancer, immune deficiency, mutations, stillbirths, abortions etc.

For discussion

1. How will you explain the mechanism and effects of a pressurised water reactor in plain language to the common man at Kūṭaṅkuḷam?

2. "The Atomic Energy Act of 1962 empowers the Chairman of the Atomic Energy Commission to refuse information to the public and makes him accountable only to the Prime Minister" *(Indian Express,* 15 June 1986). In the face of rampant illiteracy in our country, what could be the consequences of such top-down planning in matters which concern more directly a common man than the planner himself?

3. Considering what Dr. David Lilienthal has said about nuclear technology, is it morally right to sell and promote such a complicated and dangerous technology?

A PHILOSOPHY OF WORK

J.T.K. Daniel

Introduction

An average worker divides his day into three approximately equal periods — eight hours' work, eight hours' leisure and eight hours' sleep. In other words, our work occupies a third of our day, in fact, half of our waking hours.[1] In order to utilise such a great amount of time purposefully, it is necessary that we develop a right attitude towards work.

Work is vocation

The word 'vocation' means 'calling' and when used in connection with employment, it implies that it has been chosen after being motivated by high purpose. Stackhouse is right in claiming that "vocation is the answer to the question 'why am I?'"[2] The steps taken to discern one's vocation in the days at college as one prepares for life-work are important. Vocation implies the understanding of high purpose which motivates a person to choose a particular job. Though the problem of unemployment is looming large and competition for any lucrative job is quite high, the student needs to be convinced that there is something higher than the monetary gain accruing from a job which attracts him. It is not sufficient for one to be content with the technical know-how of one's career. A future businessman can be motivated to follow the higher purpose of serving the community honestly by supplying good materials with a marginal profit only. A lawyer could be trained to avoid all kinds of distortion of truth. A young college student needs to be given the guidelines of the key factors such as circumstances, inclination, capacity and opportunity for deciding his career and be clearly told that every honest job is part of the great cooperation of service which contributes to the welfare of the community.

Our country needs honest workers in every field of life. Man is a social being and he is obligated to his family which is the primary institution of a society. The maintenance of the community's life and its standard of living depend on the continuance of work of many different kinds, manual and mental, skilled and unskilled. Work ethics is therefore personal as well as social. Our society should recognise meritorious and

[1] J.W.R. Stott, *Issues Facing Christians Today* (London: Marshall, 1984), p.154.

[2] M.L. Stackhouse, *Public Theology and Political Economy* (Grand Rapids: Eerdmans, 1987), p.24.

honest work. Swaminathan is right in his claim: "The ethics of work do not stand alone; they are part of the ethics of the entire society."[3] The educated youth can become an agent of social transformation, if they clearly understand work as their vocation.

Work is for self-fulfillment

There are people who think that work is an unavoidable drudgery; a brute necessity and curse imposed on them as punishment for their misdeeds. It is important that we realize the double aspect of work as both joy and toil based upon the triumph and tragedy of human predicament. The idea of vocation is brought from the monastery to the market place, affirming that each person is called to carry on a work in society to the best of his ability. If a person is idle and destructive, instead of being active and creative, he denies the basic aspect of his humanity. Of course, any creative work cannot be achieved unless it is wedded to indomitable industry. One has to work hard and even become a drudge in order to become a genius. Thomas Alva Edison, the inventor of electric devices defined genius as 1 percent inspiration and 99 percent perspiration. Educational institutions often give the impression to the society that the teacher and the taught do not have to work hard. One of the codes of professional ethics for teachers suggested at a national workshop is "to develop in the students respect for manual work and workers."[4] How can they do it if they are not committed to industry and honest work?

People should take up their work as a way of utilizing mental capacities and creative talent. In the dramatic presentation of the creation in the Scriptures, we are told, "The Lord God took the man and put him in the Garden of Eden to work it and to take care of it."[5] In other words, God gives man the responsibility to work hard and to maintain the ecological balance of the world. Even a pessimistic preacher of the Scriptures finds meaning in work when he claims that there is nothing better for a man than to 'enjoy' and "find satisfaction" in his work.[6] Undoubtedly, a right moral attitude may give proper meaning to our work. The sense of justice, fairplay, honesty, sincerity, cheerfulness and determination to achieve a desired result should be some of the overriding factors in any work.[7]

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[3]S. Swaminathan, *"Towards Humane Economy"* in J.T.K.Daniel, and R. Gopalan, (eds.), *A Vision for India Tomorrow* (Madras : MCC, 1984), p.66.

[4]Rajammal P. Devadas and Chandramani (eds.), *Ethical Values in a Changing World* (Coimbatore: Avinashilingam Home Science College, 1987), p.427.

[5]*Genesis* 2:15 (New International Version).

[6]*Ecclesiastes* 3:22 and 2:24.

[7]R.H. Lesser (ed.), *Development of Personality*, vol.I (New Delhi: AIACHE, 1976), p.87.

Work promotes liberation

One who works for society can be liberated from the inborn egocentricity. His attitude to work can develop even a *life-ethic* rather than *work-ethic*, especially, when he is conscious that his contribution is towards a nobler and higher end. Since work is a basic social reality man achieves fulfillment as a human being when he contributes to the welfare of others. In fact, work is so indispensable to our humanness that we forfeit a significant part of our personality if we are idle. Any responsible society should emphasise *workfare* rather than *welfare*.[8] Further, it is important to humanize and enrich the working conditions of the people doing the same job monotonously in factories and industries. E.F.Schumacher observes rightly that industry without art is brutality, since it damages the worker's soul and spirit while it meets his material needs only.[9]

Work is an offering to God

Work is intended for the satisfaction of the worker, for the benefit of the community, and also for the glory of God. One of the Ten Commandments which insists on the observance of Sabbath on the seventh day pronounces distinctly, "Six days you shall labour and do all your work."[10] To the early Christians who gave up their mundane work even as they expected the final return of the Lord at any moment, St.Paul admonishes, "If a man will not work, he shall not eat"[11] and urges everyone of them to earn their bread. Gandhiji considers work as worship when he says, "If one has to establish communion with God through some means, why not through the spinning wheel?"[12] In other words, work is an offering to God, as it promotes sharing good things with fellowmen. The God of Israel gave the people a "land flowing with milk and honey" with clear mandate that the harvest should be shared with the poor, the alien, the widow and the orphan. St.Paul writes to the Ephesians saying that a thief should not only give up stealing, but share with others in need what he earns by honest work.[13] It is highly desirable to regard every bit of human effort as an offering to God so that there is a sense of personal detachment in discharging one's duty or *niskamakarma* which is one of the highly commended tenets of Indian philosophy. Further, the responsi-

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[8]H. Davis and D. Gosling (eds.), *Will the Future Work?* (Geneva: WCC 1986), p.15.
[9]E.F. Schumacher, *Good Work* (Abacus, 1980), p.121.
[10]*Dueteronomy* 5:13.
[11]*Thesalonians* 3:10-12.
[12]M.K. Gandhi, *My Philosophy of Life* (Bombay:Pearl,1961), p.224.
[13]*Ephesians* 4:28.

bility of the worker becomes genuinely enhanced when his reference point transcends human predicament leading to the Creator God. In other words, work itself is creative and the work place is also a centre of God's activity through His fellow workers, human beings. St.Paul says, "Whatever you do, work at it with all your heart, as working for the Lord, not for men."[14]

Conclusion

We have observed that work is vocation in the sense that every one is called to carry on the work to the best of his ability. There is a social necessity for everyone to contribute to the good of society. Every opportunity to serve a community brings satisfaction and joy when it is done with a right attitude to one's neighbour. The vocational training and counselling offered in our universities and colleges need to be strengthened. The exposure programmes to highlight the social realities offered under the auspices of NSS and CSS are important to our developing nation. A fundamental principle in vocational guidance is that the client ought to be free to make decision for himself and the counsellor's role is a passive one always. A college can, however, continue to motivate the youth to give priority to service through value education programmes. Service is not to be taken as a stepping stone to nobility, but it is nobility, the only kind of nobility that should be recognized. Millions of youth educated and equipped in our centres of higher learning can bring about social transformation when they take up their work as a challenge and a way of utilizing mental capacities and creative talents in order to build up the nation "as a land of justice, where none shall prey on others; a land of plenty, where vice and poverty shall cease to fester; a land of brotherhood, where success shall be founded on service... a land of peace, where order shall not rest on force, but on the love of all for their land, the great mother of the common life and welfare."[15]

For discussion

1. How could you characterise your attitude to your work? As a student, how do you regard your various kinds of work — classwork, homework, library work and other such? Evaluate your attitude.

2. Is there anybody to whom you look up as a model worker? Why? Give reasons.

3. What does the literature in your mother tongue say about the proper attitude to work?

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[14] *Colossians* 3:23.

[15] *Students at Prayer* (SCM: 1968), p.58.

STUDENTS AND POLITICS

Alexander Mantramurti

The citizen of a state has a moral responsibility to support the political system of the state. Such an attitude of support, though influenced by heritage, can be taken for granted by the state. Hence institutions have been established and processes initiated by the state that have as their goal the shaping of such a support. Such processes are termed 'socialization' and the institution responsible for the emergence of such processes are known as the 'agents' of social change. For any stable political system, generation of socialization processes through various agents, is a prerequisite. In our country, where illiteracy is colossal, the students in general, may be the 'elite'. The political system is bound to have its share of influence on them as it would on other components.

In the realm of political science man is said to be a "political animal".[1] Such an expression obtains greater currency in the light of the fact that the day he is born ultimately determines his "coming of age" politically, through exercising his vote. The right to franchise is fundamental to any citizen. The topic "students and politics" assumes greater importance in the context of the sixty-second amendment to the Indian Constitution. Thus man, from his very birth, is brought under the realm of the political system.

When a child grows, the environment plays a dominant role in shaping its attitude, skills and values in two major ways. First, by providing a direct environment through the family and the educational institution in which the child interacts with other members. Second, the mass media, as we see in recent times, which play a very effective role as the indirect environment. For an adolescent, a major part of his formative stage is spent in institutions of higher learning. A study of the influence that can possibly be effected on him by these agents of socialization assumes importance.

It is a popular belief that education has a multidimensional role in a stable political system such as political socialization aimed at imparting knowledge on responsible citizenship.

Of late, education has been given a major share of public resources and political patronage by the government. This may be indicative of the Government's consciousness of the need for students to be exposed to the tenets of responsible citizenship.

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[1]Dorothy M.Pickles, *Introduction to Politics* (NewYork: Methuen Co., 1979).

A desire for the students' involvement in the functioning of academic institutions may be identified as a positive step towards shaping the future citizens. As a consequence, the students' demand that they be involved in decision-making processes in academic campuses is not uncommon. It is stated that students should be associated with the functioning of academic bodies in the educational institutions.[2] If so, such a measure will lead to democratization of educational administration of which students form an integral part along with the teaching and nonteaching components.

A student normally enjoys certain privileges in society as the future citizen. Among these is the reducing of the voting age to 18 by virtue of the sixty-second amendment of the Indian Constitution. Exercising one's vote involves making a choice which is an aspect of political process. For an effective participation in this political process, one must have some political awareness. A college, as an agent of socialization, can provide the scope for students to attain political maturity by widening their avenues of involvement in the decision-making process at different levels.

A mere provision of such an avenue by itself may be counterproductive if the college does not provide the necessary input by way of political education as a part of its educational process.i.e., training students to be responsible citizens. Such an exposure would give them a greater sense of responsibility and develop their personalities.[3] Hence, equipping students for constructive participation in the decision-making processes within the four walls of a college is imperative in the context of the emerging political climate.

If universality of students' involvement in politics is the basic premise, then the institutions of higher learning are charged with the responsibility to provide the necessary input to such a constructive involvement. The input function of educational institutions in this regard, may be broadly categorized into inculcation of leadership qualities and a sense of institutional loyalty. These may be considered the two major ingredients of character-building among the youth.

Leadership

Leadership binds the leader and his followers to follow the invisible leader — the common purpose.[4] It appears to be the function of at

[2]Chandran D.S. Devanesen, *Retrospect and Prospect* (Madras : Roofs for the Roofless, 1987).

[3]R.N. Gilchrist, *Principles of Political Science* (Calcutta : Orient Longman, 1964).

[4]Mary Parket Foller, "Essentials of Leadership," in Harwood F. Merrill (ed.), *Classics in Management* (USA : American Management Association, 1970).

least three complex variables — the individual (leader), the group of followers and the condition.[5] All these three components are interrelated. The leader, to be effective, should have a clear role perception. The essentials of leadership which he has to imbibe should ultimately enable him to grasp a "total situation".

The followers' role is not merely to follow. Their responsibility lies in their genuine effort to keep the leader in control of the situation. It is the institutional climate or the environment in the form of 'condition' that could provide the congenial atmosphere for both the leaders and his followers to follow the "invisible leader" — the organizational goal. An effective control over the total situation to realize the organizational goal will ultimately depend on the personality of the leader and the correct attitude of the followers.

An educational institution ought to provide avenues for developing leadership skills and inculcate positive attitudes in students. The areas of leadership may be related to active politics, trade unionism, administration, social action, rural transformation, academic and religious fields. How do educational institutions strive to inculcate social values like justice, accountability, involvement and role perception in the context of these leadership avenues?

Institutional loyalty

The spontaneous willingness to identify oneself with the institutional goal may be termed 'loyalty'. It is an essential condition of any organization.[6] Not all participants in a given situation would have the same or similar degree of willingness, as their attitudes may vary from extreme willingness to extreme unwillingness on a scale. Thus, among the possible contributors, only a few would actually have positive willingness. The positive contribution (of varying degrees) would not only reflect the personality of the followers but also their proper understanding of the duties and responsibilities associated with their role.

A well-established educational institution consists of students from various backgounds, with different levels of academic attainment and varied ideals. It may not be possible for the institution to help every student attain his ideals. But what it can do is to provide the required atmosphere for the complete growth of his personality. It is through unconscious or conscious assimilation of the ethos of an institution that one's attitudinal predisposition related to the supreme values like loyalty could be shaped. Some of our institutions are known for such an institutional culture.

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[5]Chester I. Barnard, "The Nature of Leadership" in Harwood F. Merrill (ed.), *op.cit.*

[6]Chester I. Barnard, *The Function of the Executives* (London : OUP, 1970).

Students do not live in isolation. They form an integral part of the society. As leaders or followers in this context they imbibe proper values in order to constructively participate in the pursuit of organizational goals. The educational institutions ought to provide ample scope for students to learn such politically relevant personality characteristics.[7]

Aversion to the ideas of students' involvement in politics or "student activism" is universal. Politics on academic campuses is considered an educational stigma. More so, because many people believe that "Politics is the last resort of scoundrels."

Two views emerge regarding the legitimacy of student politics. One view is that students are inevitably involved in politics as they fall within the realm of the political system. The other view is that since educational institutions are abodes of higher learning, there should be no place for student politics. An institution that aims to shape the total personality of students ought to provide scope for political awareness within its framework, whether it is under affiliating or autonomous system.

When a political system has its stress and strain, students must have their legitimate share in it. In this part of the subcontinent, student activism seems to concentrate mainly on campus matters rather than on wider social issues. As the students are to receive formal education, the training for adult roles has to be imparted by institutions of higher learning.

The students of today are said to be an easily mobilizable population,[8] who can be lured by political parties for their vested interests.[9] If so, the educational institutions assume a greater responsibility to provide the proper direction to the politically vulnerable young minds. The reason why students seem to be swayed by environmental politics may be that these institutions do not provide political education which is increasingly needed for constructive citizenship.

If one were to be asked, "Should students be involved in politics?", the answer ought to be '*yes*'. More so, in the present Indian context. Against this background certain issues may be raised purely with the view to seeking a rationale for such legitimacy.

i) How equipped are students to be involved in politics (on-campus and off-campus orientation towards goal-setting)?

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[7]Fred I. Greenstein, "Socialisation: Political Socialisation," *International Encyclopaedia of Social Sciences*, vol.14, 551-54.

[8]A.R.Roy, *Student and Politics in India* (New Delhi: Manohar Publications, 1977).

[9]S.K.Pattnaik, *Student Politics and Voting Behaviour* (New Delhi: Concept Publishing co., 1982).

ii) How does their involvement lead them to attain their goals/ ideals with which they enter the portals of institutions?

iii) What is the appropriate method to provide political education to the students for constructive participation? ("open house," debates, etc.)

iv) Should not political education be an integral part of the academic curriculum for total development of the students' personality? (exposure to contemporary political realities)

v) What is the responsibility of the educational institution in this process of character-building?

While deliberating these issues, related ones may emerge. It is through free and objective deliberation that one could seek a rational justification for well-educated political involvement on the part of the students. Any institution of higher learning that seeks to turn men and women into responsible citizens ought to provide ample avenues for the nurturing of social values like positive leadership, social consciousness and loyalty.

For discussion

Discuss the five issues raised by the author.

Not only in the Far East and Eastern Europe but also among the progressive forces of the West, new questions will be posed; and now that this once great vision of the future, namely, socialism is wounded, the echoes of this crash will be felt well into the twenty-first century in the developing countries.

They will be felt first because the relative freedom that the "Third World" and "Non-aligned" countries enjoyed, in the last four decades, came from the fact that they could play off the superpowers one against another. That is no longer, in the foreseeable future, possible. While many find it dangerous, the United States has become the policeman of the world—although Western Europe moves towards a new "united states of Europe" of world significance, and a number of powers will continue to be quite influential regionally — India in South Asia and Japan in East Asia, for example. It is not clear what principles will guide any of these powers.

It will be felt, second, because many poor countries looked to Eastern Europe to find models of how old cultures, mired in stagnation, might find ways to modernize quickly through various forms of 'guided' democracy, centralized planning, and controlled economies. It turns out to be much more difficult and ambiguous than anyone imagined. The countries that tried to follow these models in various degrees—Tanzania, Angola, Mozambique, Vietnam, Cambodia, Bangladesh, Cuba, Nicaragua, etc. — are all in a mess.

Politics is to serve, not master, the people. Democracy too much guided by the state, becomes tyranny; centralized planning puts the instruments of public policy, administration, management, production, and enforcement by police power in the hands of the same clique; and controlled economies do not generate goods and service for the common good. What is shared is increased poverty. Poland, Hungary, Czechoslovakia, and East Germany have more closely approximated the Third World by these methods than have the Third World countries approximated them by the same methods.

It will be felt, third, because both Marxism and much of the progressive West have exported the idea that we are dealing with the realities of the human situation most directly when we take up the material

needs that people have. What really makes things happen is material forces. But, in fact, it was not guns or tanks or bombs or even food, sex and clothing that defeated the Marxists. It was ideas. Ideas carried by cultural memories; ideas carried by radio and television; ideas passed from hand to hand in furtive publications; ideas sung in pop music. It is said that the Ayatollah began his revolution by means of cassettes smuggled into Iran. Now, it seems, the same technique helped overthrow the greatest of modern revolutions, by means of tapes and rock music.

It will be felt, fourth, because the French Revolution, and the Marxist ones, proposed the idea that society could and should be governed by purely secular ideas, on which people could presumably agree, and not by the "myths" of the world's religious or theological ethics, about which there was little agreement and for which there was little evidence, they said. There are surely areas in which socialism and the great world's religions could, and have, in different forms, shared many principles; but in the Marxist tradition, we find "scientific socialism," advocated in a way that not only repudiates, but actively attempts to suppress religion.

In fact, it is precisely those places where religion was most repressed that the tyranny was greatest. Further, we associate the most important movements against tyranny and imperialism not with the overcoming of religion, but with the renewal of religious ethics, with the formation of both new religious communities, and with the reformation of religious commitments, so that they are empowered both to break down old barriers, and to bring a new vision and ancient moral principles into the criticism of a purely political, economic, or military analysis of the structure of power. Gandhi in India, Martin Luther King in America, Bishop Tutu in South Africa, the Base Communities in Latin America, Sufi groups in Turkey, and certain Buddhist groups in Japan stand as models of this possibility.

The most difficult and critical period of any great event in life is what happens on the far side of the drama. The Revolution is over. It fought noble battles; but it too grew old and bitter and no one believed its old stories any more. What next? The future has been born the same year as the old vision died. How do we organise life when the old supports, cranky if beloved, are gone; and how do we raise the new generation? The questions stand before us:

- What principles will guide and constrain the powers that remain, those that fought Communism, and those that adopted socialism?

- How shall we guide efforts at modernization if state-controlled efforts do not work, or bring tyranny?

- Which ideas turn out to be more powerful than material interests and which merely reflect them?

- Where shall we find religious values that can generate the moral and spiritual resources for the twenty-first century?

The leaders of Independent India had to address themselves to these questions when they were active in formulating the Universal Declaration of Human Rights, as it was developed by the United Nations in response to the Neo-Pagan horrors of National Socialism in Hitler's Germany. Indian philosophy and religion played a role in that great international statement of universal moral principles.

Further, in a different form, these ideas were embedded in the Constitution of the new India under the influence of both Gandhi and Ambedkar. That set the pattern for many other "new nations" as they emerged from colonialism around the globe. In the Indian case, and in many of the other developing countries, however, these human rights provisions were related to a socialist vision that has sometimes aided and sometimes obscured both the promise of human rights provisions and the foundations on which they rest.

It aided because it declared to the citizenry and to the world that a major effort would be made to overcome the debilitating features of caste. As Western religious traditions, often minority ones, had drawn from repressed parts of the religious tradition, and linked it with the best of philosophy and science then available to articulate human rights and correct distortions in Western social history, so Indian thinkers who founded the new nation drew from the deep resources of Indian religious thought and wove it together with influences from secular philosophy and foreign religious traditions to try to correct human distortions in Indian social history.

It also obscured because there are certain potential tensions between human rights and socialism. For one thing, human rights are based on the idea that there is a universal moral law that is true for all peoples of all cultures, under all social conditions, in all stages of history. Murder, rape, torture, bribery to bear false witness (especially in the courts), oppression, exploitation, are always and everywhere ethically and spiritually wrong. The intellectual basis of scientific socialism, stands opposed to the idea of universal moral laws, and holds that such ideas grow not out of some universal religious insight, but out of quite particular social and historical traditions in the development of bourgeois culture.

For another thing, human rights depend both on the idea that each person is endowed with a dignity that must be respected by other people and by governments no matter what status that person has, and on the

idea of the right of individuals to form groups for social, educational, artistic, economic, or political purposes independent of any approval by the ruling party or state. Socialism, as it developed, does not locate human dignity in the individual, but in the class or group from which the human person comes, especially if it is the working class. Further, it does not encourage the independent formation of groups for these purposes. To bring about wider participation in the working class, the organization of groups has to be controlled.

For a third thing, human rights draw heavily on philosophy and science and from the insights of many cultures; but its deepest roots are, finally, religious. God is the source of the moral law. God bestows the inner spiritual foundation of each which means that we are to honour each. Further, God calls people into communities of work and worship, protest and learning, moral discussion and political action, that involve associations of persons that no state may control. In fact, they — parties, corporations, unions, movements, presses, colleges, churches, etc. — may live out their lives in peaceful obedience to the basic principles of a universal moral law without any prior approval of any government.

Socialism, as it derives from the Marxist tradition, does not think that religion can be compatible with philosophy and science. Thus, it does not trust religion, religious motivations, and the capacity of religious morality to prevent exploitation.

Finally, we might mention the unresolved tension between civil and political rights on the one side and social and economic rights on the other. Human rights, finally, include both groups of rights — those pertaining to the freedom of religion, speech, association, political participation, and the like; and those pertaining to the rights to work, to food, to health care, and the like. The difference between these two kinds of rights includes the question of who it is that is to see that these rights are fulfilled. In matters of civil and political rights, persons and individual groups are responsible to see that these rights are fulfilled; government is forbidden from interfering. In matters of social and economic rights, the government is responsible to see that they are made actual, and (in socialist practice) independent groups are not thought to be competent to fulfill them.

The felt urgency of the social and economic needs in the Indian situation, especially under the leadership of the Nehru dynasty, and in response to such advice as Western socialists, such as Gunnar Myrdal, brought to India, led to a willingness to compromise on civil and political rights in two areas that are exactly on the boundary of the two kinds of rights. One has to do with the rights of religion to form new communities

that minister to people in many ways, and the other has to do with the rights of economic corporations to develop new means of productivity freely.

This has meant, in India, as well as in many countries that have followed India as a premier leader of the Third World and Non-aligned nations, that religious conflict and economic difficulties continue and repeatedly manifest themselves at the highest and lowest levels of society. Seldom today do religious groups seek to identify the areas of common agreement about universal moral principles that could help guide the future of the country as a whole, and constrain the international powers that continue to exercise such an influence in the world. It also means that the drive to develop economic possibilities that are unmet in society, is frustrated in society because of the extraordinary distrust of cooperative economic efforts. Incorporation is difficult, permits are interminable, and bribery is required. All this drives the young people into corporations abroad, and the lack of open opportunity at home drives those who stay into black market, to cutthroat competition for position, and cynicism about all civil and political rights—not to mention moral and spiritual values.

What can we contribute?

Neither India nor the United States has gone through what the French and the Eastern European countries have undergone. Further, the historical backgrounds, the cultural traditions, and the present world position of the present leader of the First World and the historic leader of the Third World are strikingly different at this moment when the Second World is collapsing. The question is not only what we can learn from that collapse; but what we can bring to a changed world situation. Both lands could benefit greatly from paying close attention to certain key dimensions of religious thought.

Social Ethics has three dimensions that can help this situation. One dimension will be fully in accord with the deepest insights of religions and the best of secular philosophy. A second dimension is compatible with certain features of socialism. It is adaptable to multiple societies and would have to be modified in each society according to the particular context, a task that will require dialogue with the social sciences. A third dimension is the unique vision of the ultimate purpose found in various philosophical traditions.

It is the fundamental gift of God to all people that allows everyone to recognize moral integrity — indeed, among those who reject some

of the things that we hold to be valid. This is also the quality that allows us to criticise those in our own group who violate moral principles, even if we are tied to them by tradition, loyalty, and bonds of affection. Some things are simply wrong; and everyone knows it, even if we are tempted to obscure that wrongness because it aids "our group," is advantageous to 'me' or to 'us' to ignore that wrongness, or might seem to be demanded by the extremities of this or that situation.

Similarly, some things are simply right. We ought to worship that which is holy. We ought to respect the parents, culture and traditions that brought us into existence and nurtured our moral and spiritual consciousness, even when they are difficult. We ought to tell the truth so far as we can know what is true, even when it is easier to deceive the simple and the stranger for gain. And we ought to live an upright life in every activity we undertake.

These things we know as humans. The Hindu, the Muslim, the Buddhist, the tribal, the modern humanist and others also know these things. People do not have an excuse on these points when they say that they are not Hindu, or not religious, or not philosophical. Anyone who does not know what is right and wrong at these levels is spiritually or mentally ill; and the rest of humanity has the responsibility to bring them into a community of care so that they can be restored to their humanity.

The second dimension of social ethics is less general and less common to the world philosophies and religions. It is the call to special care for those who are sick, oppressed, possessed by forces beyond their control, victim of internal and external distress. In this some theists and socialists are similar. They believe that things can be different. A conversion, a transformation, a novelty, a surprise, a miracle, a revolution can take place.

The areas that damage people, that make them hurt, can be identified and, within limits, changed. We know that some difficulties come because of politics, others because of economics, still others because of cultural heritage, or family life, or education, or legal structure, or inadequate technology. And we can analyze these sources of unnecessary suffering, with socialists and humanists and materialists as our allies. How the biophysical universe and social systems and customs operate and how they put terrible burdens on people is not a peculiar insight of Hindus, or of Muslims, or any other group although the weight that a Hindu or a Muslim might give to family life, or to medical treatment, might differ, and although some might see the problems more in education while another sees it more in law or the tendency of men to dominate women. In any case, the analysis of the concrete conditions in one culture will require

familiarity with how things work in that society under those particular historical conditions. This familiarity with the concrete, and the demand that we attend to the specifics of a situation is a dimension of ethics that is too often neglected. But without it, ethics is like a doctor who prescribes his favourite medicine without doing a serious diagnosis of the particular condition of the patient. Insofar as religion has too often done that, socialism's demand for a concrete analysis is a helpful ingredient — fully compatible with the insights of a number of religions of the world.

But even if we know the first principles of right and wrong; and even if we have done a concrete analysis of the situation and know that it can be changed, we may still have questions in ethics that are of another sort. What is the proper end or purpose of life? What is worth dedicating our lives to, and how ought we to structure society to help us to do so?

Many ideologies have their vision of the ultimate purpose. The Christian vision is not the same as the Hindu vision of *moksha* where ignorance is overcome in the Brahma-atman. Nor is it the Buddhist vision of *nirvana* where attachment is overcome in the bliss of no-thingness. Still more, it differs from the Islamic portrait of *paradise* where lawlessness is defeated by return to the ever peaceful primal garden, or even the Marxist vision of a perfect classless soceity where oppression is overcome by the modernized reestablishment of the communitarian village by political action. Each of these visions demands a specific discipline in life, a specific set of institutions and customs to approximate. The Brahman family and its practices, differ from the Buddhist monastery, from the Islamic mosque, and the Christian church.

It is not at all clear that one can easily persuade a member of one of these other groups that one's own vision of the ultimate end of life is the true and valid one. All these visions point towards the future, and the data of the future is not in yet. On many of these points, we can simply tell of our faith and our hope.

But we can also make the community of faith to which we adhere aware that it, and all other communities of faith, must both be obedient to the first moral laws of right and wrong — symbolized by the principles of human rights in modern life — and be responsive to the concrete needs that people have in the present contexts of life — symbolized by the hopes of the socialists, even if the international movement in the tradition of Karl Marx has collapsed in upon itself. It is on such bases that the new future will be reconstructed on a global basis.

For discussion

1. In the light of what the author says about the performance of Marxism in general, consider its role in your state.
2. As against the picture of Marxism painted by the author, do you think it is possible to look upon it merely as a catalyst of social change (which function it has performed quite effectively in many parts of the world) rather than as an ideology that is perennial, universal and, what is more, comparable to religious traditions? If yes, could you recall some positive contributions of Marxism particularly in the under-developed countries?
3. In a multireligious group discuss the UN Declaration of Human Rights from the point of view of your religious tradition.
4. Also consider the questions raised by the author in the chapter.

TERRORISM

Y. Arul Kumaran

Introduction

This chapter is an attempt at comprehending the form of violence now widely known as 'terrorism'. Violence, political or other, has been in existence from the birth of man and it would be interesting to study it as such. But the present study, however, is necessarily limited in its scope, examining mainly the latter-day concept and the terrorist persona rather than the history of the problem. Regional differences in the concept and practice of terrorism have, by and large, been ironed out in the last two centuries, thanks mainly to the French and Russian revolutions which were the prototypes for all modern revolutionary movements and the resultant violence, and also to the modern advancements in our telecommunication system.

The chapter begins with the definition of the phenomenon, then gives a brief outline of its origins and various types and finally inquires into terrorist compulsions and the public response to this problem.

Definition

The *Encyclopaedia of Social Sciences* defines the word thus:

> Terrorism is a term used to describe the method whereby an organised group or a party seeks to achieve its vowed aims chiefly through the systematic use of violence. Terroristic acts are directed against persons, who, as individuals, agents or representatives of authority interfere with the consummation of the objectives of such a group. The terrorists do not threaten; death or destruction is part of their programme of action.[1]

But any serious writer on the subject will be surprised by the non-existence of a clear-cut, universally accepted definition of the term 'terrorism'. An author on the subject has collected 109 different definitions provided by various writers between 1936 and 1981.[2] Most writers agree that terrorism is the use or the threat of the use of violence, a mode of combat or a strategy to achieve certain targets, that it aims to induce a state of fear in the victim, that it is ruthless and does not conform with humanitarian rules, and that publicity is an essential factor in the terrorist strategy. Yet, there is no agreement on whether terrorism is violence in general or some specific form of violence; on whether stress should be

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[1]vol. 13 (Macmillan and Freepress, 1975), p.575.

[2]Walter Laqueur, *The Age of Terrorism* (Boston: Little Brown, 1987), p.143.

put on its political character, on its methods of combat, or on the non-military character of its strategy; on whether one should single out its purposive and systematic character, or its unpredictability and symbolic aspects, or perhaps the fact that many of its victims are innocents. Some maintain that terror is a symbolic act designed to modify the political behaviour of the enemy.[3] This may be true of some cases, like hijacking an airplane, but not in others. One ethnic group killing another is not merely symbolic. It is often an act of revenge.

Many definitions equate terrorism with revolutionary liberation movements. Liberation movements are one thing, terrorism is quite another. Usually, an extremist group which breaks away from the mainstream moderate group resorts to violence. Violence during our own Independence struggle is more an exception than a rule. The mainstream political movement was peaceful under the leadership of Mahatma Gandhi.In the same way the Irish Republican Army (IRA) was a nonviolent and political organisation till its breakaway Provisional IRA (PIRA) came into being. PLO is widely recognised to be a political organisation but its breakaway group "Black September" was a dreaded terrorist organisation. Some other writers have favoured this relativist idea: one man's terrorist is another man's freedom fighter; what is terrorism to some is heroism to others. Use of force is sanctioned by Karl Marx in any revolution: "Their (the proletariat) ends can be attained only by forcible overthrow of all existing social conditions. Let the ruling class tremble at communist revolution."[4] So, these authors seem to imply, a terrorist may only be a revolutionary. This kind of relativism oversimplifies the issue and does not help matters much anyway. As one important writer on terrorism remarks, "such observations are correct to the same extent as it is true to say that both Adolf Hitler and Mother Teresa had many admirers; as if barbarism and humanism were a matter of culinary or sartorial taste."[5]

But so far the definitions have emphasized on the means and motive of terrorism. There is yet another angle to the phenomenon. One definition would have us believe that terrorism is "a certain type of criminality."[6] This is certainly true insofar as terrorism violates the laws of the land. But the problem is that the application of legal norms is of little help in establishing the political character of a terrorist movement. By 'crimi-

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[3]*Ibid.*, p. 143.

[4]Quoted in William Ebenstein, *Great Political Thinkers* (New Delhi: Oxford & IBH Publishing Co., 1969), p.697.

[5]Walter Laqueur, *op. cit.*, p.143.

[6]*Ibid.*, p. 144.

nality' definition some of our heroes, like Bhagat Singh, become mere terrorists. Even the plotters against dictators like Hitler are criminals by this definition. So the question of legality paints all use of force black, thus discrediting even legitimate resistance (legitimate according to natural law) against tyrants and illegitimate regimes.

It is even more unsatisfactory when the upholders of the law themselves indulge in acts of unacceptable violence. Some of the acts of terror carried out by the British Raj, like the Jalianwala Bagh massacre, would escape censure in the light of this definition.

In this confusing maze of interpretations we must remember that "acts of terrorism are incomprehensible if we look at only their political motivations and effects and ignore their psychological bases."[7] Seen from this angle, the terrorists may seem to serve a cause, but in fact the cause serves them and their own wishes; they often seem to be the victims of psychological maladjustment and puppets of their own illusions and delusions. It is interesting to note that most terrorists may be using political goals only for rationalising violent acts born out of their psychic disorder. It would appear that politicization of mental and emotional disturbances is extremely common among the mentally unstable.[8]

A writer has suggested that terrorists, according to their psychological motivations, fall into three groups:the crazy, the criminal and the crusading.[9] The emotionally disturbed ones are the crazies, driven by reasons of their own that often do not make sense to anyone else. The violence of psychopaths like the infamous Jack the Ripper and the stoneman of Calcutta may fall into this category. Criminal terrorists are those who use illegitimate means to obtain personal gain; the hijackers and kidnappers fall into this category. Crusading terrorists, the most typical, are idealistically inspired. They seek not personal gain, but prestige and power for a collective goal; they believe that they act in the service of a higher cause.

The traits of each of these three groups may overlap. Some crazies may be attracted to crusades. Crusading terrorists often have emotional problems. Criminals adopt justifying and comforting identity of a cause. All of them believe themselves to be the victims of some form of persecution. All of them easily fault the supposedly evil forces in the society that are responsible for their plight.

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[7]Frederick J. Hacker, "Dialectic Interrelationships of Personal and Political Factors in Terrorism" in Lawrence Zelic Freedman and Yonah Alexander (eds.), *Perspective on Terrorism* (Delhi: Hindustan Publishing Corporation, 1985), p.19.

[8]*Ibid.*, p.21.

[9]*Ibid.*, p.22.

From these differing, often diagonally opposite, perspectives on terrorism, we should attempt a clear-cut definition of the term. Terrorism, as merely political violence, born out of revolutionary necessities, is apt to be taken as something positive and even part of the historical process. On the other extreme, if we consider terrorism a criminal activity, we become culpable of ignoring genuine voices and acts of protests against corrupt and tyrannical governments. If we take the psychological point of view, it would seem that every terrorist is mentally deranged and, when caught, not to be punished but treated in a mental asylum.

However, it is interesting to note that most of the revolutions that have used violence as their principal weapon have failed. To quote a leading Indian writer on the subject:

> There have been nationalist terrorism to overthrow colonial rule, ideological insurgency and terrorism of the communists to overthrow a capital order, ethnic insurgency of the tribals to form independent states or to preserve their identity... All these phases of extremist politics had posed serious challenges to established authority in their time. But each was successfully suppressed by the authorities, be it colonial or national, dictatorial or democratic, excepting terrorism in Punjab which is still continuing.[10]

The author seems almost to suggest that it is just a matter of time before Punjab, and perhaps now Kashmir, also fall into the pattern. Elsewhere in the world also, extremist politics with use of force as their mode of combat have failed or are crumbling down. On the other hand, the total rejection of violence in our independence struggle delivers an even more deadly indictment on violence as a means of political expression. With all this in mind, we can now attempt a definition. *Terrorism, then, is the use of, or the threat to use violence by a desperate individual or group on an individual or a society or any section of it for a real or imagined political or any other cause, private or public, disguised as political.*

Origins

The word 'terrorism' seems to have originated during the era of the French Revolution and the Jacobin Reign of terror. "At first, it was identified with state action, wherein terror was used as an instrument of political repression and social control."[11] Government or State terrorism thus became an integral part of revolutionary process almost two centuries ago. Ever since, terrorism from above (State, Government) has remained as much a part of the terrorist activity as terrorism from below (individuals, groups). Both Nazi Germany and Stalinist Russia are a regrettable legacy of the terrorist tradition established by the French Revolution.

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[10]Biswakesh Tripathy, *Terrorism and Insurgency in India* (Berhampur: Pacific Press, 1987), p.243.

i) Individual and group perpetrators

a) Individual terror-violence can easily be traced back to ancient Greece and Rome. In its classic definition, the assassination of Julius Caesar on the Ides of March, 44 BC, was an act of terrorism. Group terrorism first became manifest at the end of the Middle Ages. The word 'assassin' is derived from the Arabic, and literally translated, means "hashish-eater" or "one addicted to hashish". It was applied to a sectarian group of Muslim fanatics who, under the influence of intoxicating drugs, were used by their religious leaders to spread terror in the form of murder and mayhem among rival and enemy religious groups. Religious dogma and political fanaticism make a lethal brew and their devastation from the Middle Ages is still continuing in the Middle East.

b) By means of tyrannicide doctrine, bolstered by the biblical warning, "They that take the sword shall perish with the sword" (*Matt.* 26:53) assassination became both an ideological statement and a political weapon in the sixteenth and seventeenth centuries. The leading apostle of tyrannicide doctrine as the remedy to political despotism was the Spanish Jesuit scholar, Juan de Mariana, who in his *De Regis Institution*(1599) declared: "If in no other way it is possible to save the fatherland, (then) the prince should be killed by the sword as a public enemy..." Political assassins have often assumed to themselves the role of God, punisher of the evil, and also cloaked themselves in the roles of martyrdom. These self-appointed judges and juries are still a menace in our times, as it was rudely brought home to us by the assassinations of Kennedy and Mrs. Gandhi.

c) From the sixteenth century onwards, pirates and piracy have been considered to be the universal scourge of humankind. And through the years, they have been characterised as enemies of humanity and various laws were enforced to curb this menace. The question as to whether or not twentieth century hijacking can be considered air piracy is one that has engaged political and legal commentators. Almost all of them agree that air hijacking is a terrorist act.

d) Universally deemed an extension of revolutionary terrorism, guerilla movements, from the time of the French Revolution, have for the past two centuries, represented insurrectionary armed protest by means of violence. The very term 'guerrilla' meaning, "little war" developed out of a popular retributive rebellion against the Napoleonic invasion of the Iberian peninsula in 1808. The attacks mounted by the Spanish guerrilla

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[1]Robert A.Freedlander, *Terrorism: Documents of International and Local contro* (New York: Dobbs Ferry, 1979), p.6.

groups against the French occupation army were supported by the British military assistance and financial aid. This, in essence, provided in tactics, strategy and values, a prototype for the wars of national liberation in this century like the Naga, Mizo and Tripura insurgencies, and those of the Liberation Tigers in Sri Lanka and the Mujahideens in Afghanistan.

ii) State and governmental perpetrators

Both Nazi Germany and Soviet Russia during the 1930s and 1940s as well as communist China during the 1950s and as late as 1989 practised genocide and humanicide on a scale unequalled and unprecedented in recorded history. All three regimes were characterised by an organised, total, all-embracing terror that has given birth to a concept known as "crimes against humanity". In a century marked by almost a saturation of evil, the excesses of Hitler, Stalin or Mao have become mere dry statistics when compared to the total figure of 100 million man-made deaths (G.Elliot, *The 20th Century Book of the Dead I*, 1972). The legatees of the Jacobin Reign of Terror have, if anything, increased in number and, while some subsequent epochs or regimes have been able to match the horrors of the totalitarian leaders, the latter half of this century has refined their techniques, if not their numerical achievements.

The terrorist and his compulsions

Terrorism, as we defined, is, by and large, a frenzied ideological response to the world around. The ideology, as has been emphasized, may be bonafide or otherwise. It is, reduced to simple terms, a struggle for power, and its purpose is totally destructive. A perceptive study on terrorism[12] has hypothesized as to why the terrorist performs his act. Based on this, we can formulate four broad reasons.

First, the reaffirmation of self-esteem. "In the pre-terrorist situation there may have been severe blows to self-image, the ego-ideal, self-respect, and the sense of oneself as an effectively functioning person deserving the respect and attention of others."[13] It is not difficult for us to understand this compulsion of the terrorist. Most of our terrorism, mainly a consequence of separatist movements, has its root in this affirmation of "self-esteem".

The second reason is depersonalisation. This is very important in the pre-terrorist situation and the would-be terrorist perceives a group which responds to his ideas and to whose ideas he can respond as well. Individuality requires a burden of responsibility. It can create moral complication or simply because of its singleness of inspiration, the motivation may dry up soon. 'Depersonalised' man is able, in a sense, to abandon his individuality and his status as a person and to act only as the instrument of a larger group.

The third reason, more probable in psychic cases, is that the act of terror may be a method of establishing intimacy. A person may feel alienated, and feel he is nothing and incapable of arousing any interest at all except when he becomes a threat to others or a force of danger in a human environment. In this situation, he is excited by the attention from the society which has neglected him so long.

The last reason is the belief in the magic of violence. The belief that spilling of blood can bring about dramatic changes in human affairs is very common among terrorists. Here, violence is a kind of terrorist sacrament. In this sacrament, there is not only human sacrifice for superhuman service of gods, but for the terrorists, it is also a way of compelling their gods to act through them. The perpetrators of terror almost believe they have the divine sanction.

All forms of terrorist violence arise out of one of these four reasons. To be sure, there are political-ideological and psycho-sociological reasons behind terrorist acts. But these factors change from place to place, whereas the basic reason remains the same. For example, the political-ideological reasons behind the terrorist acts of Punjab separatists and the Irish Revolutionary Army are different but the perception of wounded ego and self-image and the attempt at affirmation of self-esteem are identical in both these cases.

In the same way, psychological-sociological factors are different only in detail but in essence all these can be explained by any one of these four reasons. The assassin may ostensibly have a political cause, but the truth is that he sees himself as the instrument of justice. Unlike other murderers, political killers are convinced of their right to deprive another person of life. A psychopath, acting for an illusionary cause, kills with conviction and without remorse. So both these agents of terror can be explained by any of these four reasons.

The Accomplices

Most analysts of terrorism agree that terrorism cannot flourish with terrorists alone; that it takes more than one party for a terrorist act to have any meaning at all. As an Indian analyst neatly puts it:

> These are: (a) an individual or group which resorts to an act of terror... (b) the decision-makers against whom the act of terror is directed... and (c) the bystanders whose attitude towards terror varies from tacit sympathy to outright condemnation.[14]

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[12]Lawrence Zelic Freedman, "Problems of Polistaraxic" in Lawrence Zelic Freedman and Yonah Alexander (eds.), *op.cit.*, p.4.

[13]*Ibid.*, p.4.

[14]Swadesh Rana, "International Terrorism: A mode of combat?" *India Quarterly*, 34 (4), 1974, 474.

One is not so sure about the decision-makers' culpability in an act of terror. The fact that the act is directed at them should make them objects of sympathy rather than censure. Inasmuch as their political decisions were the provocation for such terrorist acts, they may seem party to them, but in fact such indictment is not fair. A terrorist evaluation of a political decision is always arbitrary and highly subjective. However, the third party, namely the bystanders, may not be without blame. As Hacker has noted, "terrorism is great theatre. It is great for the perpetrator and for the audience. In fact, it is carried out for audience entertainment. It is show business."[15] The kidnapping of the Home Minister's daughter was good drama for the public. It had all the ingredients of a successful formula movie. It is this dramatic quality that makes terrorism such a thriving activity, but ironically, even this real-life blood and gory drama has begun to pall because there is too much of it.

However it is important to remember that making the media the sole scapegoats for terrorist attacks is to oversimplify the phenomenon itself and to confuse the various political and psychosocial compulsions behind terrorism. But media, especially movies in India, by a pervert desire to entertain public, glorify violence and perpetrators of violence.[16]

The problem with this is that our reactions to reality is much more influenced by the fantasy that is peddled in the name of reality: for example, to combat a terrorist operation we would want a movie-type commando operation which would surely succeed, because it always succeeds in movies. Such nonserious approaches to terrorism would only exacerbate the situation.

V. Conclusion

Terrorism has existed from time immemorial. There have been self-styled revolutionaries, psycopaths and criminals disguised as political actors. The archetype terrorist is a young person, often a school dropout, between the age of 16 and 25, usually male, often from unstable families.[17] So to combat terrorism, the terror-combating agencies should see to it that perpetrators of terror are gradually weaned away from terror path. The fact that the quintessential terrorist is a disaffected, often poorly informed youth is both a cause for concern and a source of some relief in that insofar as he is impressionable he can be made to see sense. Our government should reform our schools, our educational system in general, so that we do not give away our young men over to terrorism.

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[15]Frederick J.Hacker, *op. cit.*, p.20.

[16]*Ibid.*, p.21.

[17]See Charles A.Russel and Bowman H.Miller, "Profile of a Terrorist" in Lawrence Zelic Freedman and Yonah Alexander (eds.),*op. cit.*

Terrorism is glamorised violence. So our treatment of it should not in anyway give the perpetrators a sense of moral satisfaction or victory, but should be such that it deglamorises and defuses it. Media especially should be extravigilant in falling prey to sensationalism. Nonviolent solutions to conflict have an educational impact on the terrorists. And finally, the present chapter may be closed with the advice from Hacker:

> Many claims of injustice certainly are exaggerated, and clearly not every injustice can be corrected. But this should not be an excuse to avoid relieving those causes of injustice that can be relieved. The best antiterrorist strategy is not a countercrusade, in which we become terrorists in different guises, but the remedy of such grievances and conditions that can and should be remedied. The active search for social and national justice gives us the moral stance to firmly stand our ground to do whatever we can in order to protect our future and preserve our liberty. The time to act nonterroristically is now.[18]

For discussion

1. How would *you* define a terrorist?

2. Who is to blame for the present state of affairs in political violence: the state, the society or the terrorist?

3. View Punjab and Kashmir in the light of this article. Are they terrorist problems? Give reasons for your answer.

4. "Violence has been sensationalised, even glamorised." Discuss this with particular reference to our TV, movies and literature.

5. What is the role of mass media in the present conditions?

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[18]Frederick J.Hacker, *op-cit.*, p.30.

CHEMICAL WARFARE: A SCOURGE OF SCIENCE

R. Gopalan

> Concern for man himself and his fate must always form the chief interest of scientific endeavours ... in order that the creations of our mind shall be a blessing and not a curse to mankind
>
> Albert Einstein

22 April 1915. French troops were stationed near Ypres, preparing themselves for an attack on the German troops. Suddenly, they saw a vast cloud of a greenish-yellow gas moving towards them. The entire French army was enveloped in the gas which filled every hole and hollow. A few seconds later, the soldiers ran around in frenzy, choking for breath. There was total panic among the troops. They tried to run away from the gas, but in vain; cloud had already overtaken them.

Thus, the first major chemical warfare was started. The gas used by the Germans was chlorine which caused the death of five thousand French soldiers, in addition to incapacitating ten thousand of them.

This use of chlorine gas in war spurred the production of several other chemical agents as potential "chemical bombs." By the end of the First World War, twelve tear gases, fifteen choking agents, four blister agents, three blood poisons and four vomit gases were in use as chemical weapons in Europe. The development of chemical warfare has added another variety of horror.

Types of chemical weapons

In a conventional warfare, the energy released by explosions is used to harm the enemies; in a chemical warfare, the toxicity of chemicals is exploited to harm or kill the enemies.

The action of chemicals on the human beings varies from mild irritation to quick death. Based on the mode of action, the chemicals used as weapons are classified into six major types (Table B). These chemicals have high inhalation toxicity; breathing in an atmosphere containing even low concentrations of some of these may permanently impair body functions by irreversibly damaging human organs.

Chemical weapons are relatively less expensive. Their storage, handling and release require less sophisticated equipments. The damage caused by them to enemy lives is tremendous. The properties in the areas conquered are not destroyed by chemical weapons unlike by artillery

or bomb attack. Therefore, chemical weapons have the dangerous potential for exploitation on a large scale in any war in the future. The Pandora's box of chemical warfare, opened by the Germans in 1915, is unlikely to be closed easily.

The Geneva Protocol

The horror and cruelty which characterised the chlorine gas attack on the French troops, and the use of other chemical agents (Table A) during the First World War, raised a moral cry throughout the world and the people demanded an end to the horrible use of technology in the form of chemical warfare. The signing of an international agreement on this issue was suggested. The representatives of several countries met in Geneva (Switzerland) and promulgated an agreement or protocol on chemical warfare. The essential part of this agreement is given below:

Whereas the use in war of asphyxiating, poisonous, or other gases, and of all analogous liquids, materials or devices has been justly condemned by the general opinion of the civilized world; and

Whereas the prohibition of such use has been declared in Treaties to which the majority of powers of the world are parties; and

To the end that this prohibition shall be universally accepted as a part of international law, binding alike the conscience and the practice of nations;

Declare:

That the high contracting parties, so far as they are not already parties to treaties prohibiting such use, accept this prohibition, agree to extend this prohibition to the use of bacteriological methods of warfare and agree to be bound as between themselves according to the term of this declaration.

This Geneva Protocol of 1925 was ratified only in 1936 by 40 nations, with the USA and Japan as important exceptions. The USA ratified it only in 1975. However, this is one of the weakest of the disarmament treaties. This protocol did not end the use of chemical warfare as proved by the recent history. Table A indicates how blatantly the treaty was ignored by the world nations.

Chemical-loaded missiles

Several nations are believed to hold huge stocks of chemical weapons even today. In the event of a war involving these countries, the use of these chemical weapons in a state of desperation is a strong possibility. With the development of missiles, carrying and delivering these deadly chemicals accurately at a place in the enemy country would

be very easy. The advanced missile delivery system, available with several countries now, has added a tremendous potential to the use of chemical weapons. Such missile-delivered chemicals may do horrifying harm to thousands of people in a populous city; these may maim, incapacitate, or kill them.

Constraints in controlling chemical weapons

There are several problems in controlling and monitoring the production of chemical weapons in the world.

The processes for manufacturing chemical weapons are simple, and therefore this warfare is within the reach of virtually every country.

The raw materials required to produce these chemicals are easily available.

The cost of producing chemical weapons is not high compared to that of nuclear weapons or artillery.

The ingredients required to formulate the chemical weapons (like phosgene, methyl isocyanate, organophosphorus compound, etc.) are also intermediates for insecticides. Therefore, a country may produce these (warfare precursor) chemicals in the guise of making insecticides but may actually turn these into chemical weapons.

Chemical weapons are easy to deploy and deliver accurately with deadly effect.

Therefore, the difficulty in chemical disarmament is spotting unusual chemicals among the numerous ores produced industrially and identifying chemical-carrying missiles among the large number of munitions held by various countries.

Chemical weapons disarmament

An international conference was held in Paris in January 1989 which discussed the issue of chemical weapons disarmament (CWD). This conference has called for an immediate disclosure of the stock of chemical weapons by the countries concerned.

Desirable clauses in the CWD Treaty

Eight chemicals have been listed for core export control and a warning list of 30-odd chemicals, potentially useful as chemical warfare agent precursors, has been prepared. The manufacture of these chemicals anywhere in the world should come under the surveillance of the United Nations Security Council. The parties should undertake not to acquire, stockpile or retain chemical weapons, or transfer them to anyone as well as not to assist, encourage or induce others to engage in these activities.

All chemical weapons and related facilities should be brought under the authority of an international monitoring body constituted by the UNO.

Periodical on-site inspections of chemical weapons stock and plants all over the world should be permitted by all the countries.

Testing laboratories should be set up to monitor and ensure compliance with international regulations against manufacture of chemicals used for making chemical weapons. A programme for eliminating the chemical weapons stocks and industrial plants producing these should be charted and effected.

Binary chemical weapons

The USA is now mass-producing a new system of chemical weapons called "binary chemical weapons." This involves the production of two harmless chemicals, which on mixing, produce a deadly chemical weapon. The binary system can be stored safely and then delivered by missiles separately into the enemy territory. Only after firing, the two chemicals get mixed in the selected space. These chemicals can be launched from artillery or dropped from planes. These are designed to slay large masses of enemy troops swiftly because they are more potent than the old 'unitary' chemical weapons.

These binary chemical weapons are so potent that breathing of small dose of any of these causes twitching, vomiting and convulsive death from heart failure or asphyxiation within minutes. Such weapons called the "Bigeye Bomb" are slated to be produced on a large scale in 1990. One of these uses the liquid poison *VX* which will kill anyone who touches it. When released in an environment it persists for weeks in liquid drops. Phenomenal progress and innovation in synthetic organic chemistry may be put to the wrong use of manufacturing dangerous chemical weapons unknown to mankind till now.

Production of the new binary chemical weapons puts the USA at the technological top of chemical arms production. It is only a matter of time before this weaponry is sold to its allies by the USA and a race for the acquisition triggered.

France has announced its intention to produce chemical weapons similar to those of the USA and a few more industrially advanced countries may also do so.

Considering these frightening aspects of chemical warfare, all the nations should come together and put an end to the proliferation of chemical weapons and save humanity from horrors which would make the horrors at Hiroshima and Nagasaki insignificant comparatively.

The Gulf War

Chemical weapons were used by Iraq in the Gulf war. The team of international observers sent to Iran in March 1984 by the United Nations submitted its report on this issue after collecting evidence on Iraq's use of chemical weapons. The report reveals the devastating effects of barbaric chemical attack on the Iranian troops. Thousands of Iranian victims died and several thousands had to be taken to hospitals all over Europe for specialised treatment. Iraq accepted the use of chemical weapons on the plea that it had no other option to repulse Iranian military attack and save itself.

Iraq's use of chemical weapons was condemned by the United Nations Security Council; this, however, is no security against the use of this "poor man's atomic bomb" by other countries in the future.

Current developments

Western countries, during the past ten years, have repeatedly accused the Soviet Union in international forums for improving its chemical warfare strategies. The USA had disclosed its plan to modernise its stock of chemical weapons on the plea that the Soviet Union has attained a vast advancement in this field; the USA is planning to design projectiles for spreading Sarin and Bigeye Bombs. However, in January 1987, the USSR called for an agreement against the transfer of chemical weapons to other countries and also against placing such weapons in the territories of other countries. It has volunteered to destroy its chemical weapons armoury located at Shikhary and invited representatives of other countries to witness this destruction. These attempts of the USSR are a silver lining in the midst of the present gloom. But what is most disturbing is the fact that Libya has vowed to manufacture chemical weapons in its chemical plant at Rabta near Tripoli. The know-how for this is allegedly being supplied to Libya by foreign firms, especially, West German. This is an ominous indication that some other Third World countries may also emulate Libya. Any of these countries, under a maniacal leadership, may unleash a global chemical war.

The Stockholm International Peace Research Institute (SIPRI) has identified the USSR, the USA, France, Iraq, North Korea and Syria as possessors of chemical weapons and Iran, Afghanistan and Vietnam as probable possessors. Indications are not encouraging for assuming that this list of countries would not be enlarged. Considering this, the spectre of chemical weapons, a scourge of science, is undoubtedly a threat to the very survival of civilization and mankind.

For discussion

1. How should the academic community respond to the issue of chemical warfare? With regard to chemistry curriculum, how could it approach this issue? What is the responsibility of the leading chemical research institutions?

2. How should the media project chemical warfare?

3. What economic measures could be adopted to check the production and distribution of chemical weapons?

4. What, in your opinion, should be the policy of our government regarding chemical warfare?

5. Can the scientists be blamed for the proliferation of chemical weapons? What effective role can they play in checking the menace of chemical warfare?

TABLE A : CHEMICAL WEAPONS USED SO FAR IN WARS

Year	*Used by*	*Used against*	*Casualties*
1914	Germany	Russia	—
1915	Germany	French troops	15,000
1915	Germany	Allied Forces	British 1,81,000
1916	Germany	Allied Forces	—
1917	Britain	Germany	
1917	France	Germany	1,70,000
1917	Germany	Russia	—
1936	Italy	Abyssinia	—
1937-43	Japan	China	—
1965	Vietnam	Insurgents in Laos, Kampuchea	—
1984	Iraq	Iran	—

TABLE B : TYPES OF CHEMICAL WEAPON

Type	*Example*	*Inhalation toxicity (mg/m³/minute)*	*Effect*
1. Tear Gas	CA, CN, CS	—	Copious tears, sneezing, coughing
2. Choking Gas	Chlorine	60,000	Choking, irritation, destruction of lung membrane, death
	Phosgene (CG)	3,000	Choking, death
3. Harassing Gas	Mustard Gas (HD)	1,500	Blister-formation, lung damage, blindness, death
	Adamsite (DM)	1,500	Lung damage, death
4. Nerve Gas	Tabun (GA)	—	Asphyxiation, heart failure, quick death
	Sarin (GB)	—	Drooling, diarrhoea, involuntary urination, confusion, convulsion, coma, death
	Soman (GD)	—	Uncontrolled muscle spasms, convulsion, death
	DFP (diisopropyl fluorophosphonate)	—	Damage to nerve system, death
	VX	—	Death on touch
5. Blood-poisoning gas	Hydrogen cyanide Cyanogen chloride	5,000 5,000	Blood poison, quick death
6. Incapacitating gas	BZ	—	Slow-down of mental and physical activity, maniacal behaviour

SECULARISM IN INDIA

S.N. Balasundaram

Indian society is marked by religious pluralism which is the product of her historical experience. Though the Indian Constitution (1950) does not discriminate the citizens of India on the basis of religion (Art. 15), (from the point of their religious persuasions), Indians are broadly divided into Hindus, Muslims, Jains, Sikhs, Christians and Parsees. Of these, the Hindus constitute the majority; the other religious communities are minorities. Among the minorities, the largest are the Muslims. The anxiety of the religious minorities about their future in a Hindu-dominated state is natural, for they want to preserve their cultural and religious identity.

The contemporary political trends do not indicate the possibility of a Hindu reaction. The Hindu majority is linguistically and culturally divided and the nationality consciousness of the Tamilians, Telugus, Kannadigas, Assamese, Bengalis and Marathis is too powerful to succumb to the Hindu religious consciousness. Besides, the cultural differences between the Hindus of the north and those of the south are salient. National and regional political parties other than the BJP are secular in their approach and their programmes are economic in content. The operation of the political factors must be taken into account, when the future prospects of secularism in India is assessed. The present political trends work towards the strengthening of the forces of secularism in our country. By fostering the secular democratic values of liberty, equality and fraternity which form the ideological basis of our Constitution, we can build an integrated nation.

The meaning of secularism

Secularism expresses a way of life and conduct, guided not by religious considerations but by materialistic ones. It is based on the firm, rational belief that progress is achieved by material and scientific means whereas religious faith only hampers it. The belief in other-worldliness is inconsistent with secularism.

The word 'secularism' is used in India in a specific context. It refers to a secular *attitude* towards life. We, Indians, in our way of life and outlook on most matters, identify ourselves as Hindus, Muslims, and Christians. Our ideas and practices are rooted in our religion. Such behaviour and outlook tend to divide us. In order to strengthen the bonds of

our national unity, we tend progressively to isolate religion from the more significant areas of common life. In other words, we tend to cultivate a secular attitude towards life. Such an attitude would wean us away from our religious approach to men and their problems. When we adopt the secular attitude in our dealings with our fellow beings or with social groups we will be able to progress as human beings and also as a nation shaking off casteism and communalism.

The concept of secular state

The concept of "secular state" is different from 'secularism' which does not refer to the relations between the state and religion or the state and citizen. But we in India tend to identify the two concepts of "secular state" and 'secularism.' Indeed, the two are interrelated and we cannot think of a society or a group of individuals which has adopted a secular attitude without the aid of a secular state. The secular state provides the congenial environment in which the secular attitude of the people develops.

The liberal democratic tradition in the West fostered the growth of the secular state there. Let us take the example of the USA. It guarantees individual and corporate freedom of religion. In its dealings with a citizen, it does not take into consideration his religion. The state in America does not seek to promote or interfere with religion. Thus, the secular state as it has developed in the democratic West, is neutral in religious matters.

When the thirteen colonies formed the United States of America, some of the States had no established church. The varied pattern of the population made a common church for the new Union difficult. Moreover, some of the States furnished an example of Church-State separation. The Constitution of the USA adopted that pattern. Article VI of the Constitution provides that "no religious tests shall ever be required as a qualification to an office or public trust under the United States." The first amendment to the Constitution, adopted in 1791, provides that the "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof." Thus, the characteristic feature of the secular state is the separation between the Church and the State. This is regarded as the basic principle of a secular state by constitutional jurists.

The peculiarity of India is that our state does not have an established church or a state religion. It treats all religions equally and grants freedom of conscience and freedom to profess, practise and propagate one's religion, subject to certain restriction. Our state is called secular

by our publicists and jurists, though there is no complete dissociation of the state from religion in India.

Secularism in India

The Indian belief that there are many paths to truth has made its people religiously tolerant. The basic doctrine of the Hindu philosophy is that *moksha* can be attained in many ways and such a view makes the Hindus hold diverse, conflicting views. With neither an established Church nor a single prophet of their own, the Hindus for centuries permitted the Buddhists, the Jains and the Parsees to live in India unmolested. Besides, Hinduism has not been a proselytising religion. The ancient Indian state did not attempt to impose a particular religion upon its people. Various creeds were permitted to live in religious freedom and build their places of worship and even to propagate their faiths. Thus ancient India had a tradition of what we now call secularism.

Though religious tolerance provided the base for secularism in ancient India, the ancient Hindu society was not completely secular, for, the Hindu social system, especially the caste system, adversely affected the social life of the Hindus.

Another factor responsible for the growth of the secular temperament in India was Indian nationalism. The founders of the Indian National Congress were secular in their approach to politics and sought to unite the different religious communities by fostering a sense of nationalism that was secular in outlook and approach. The Congress leaders who were imbued with Western liberalism were noncommunal in their approach. Throughout the period of the national struggle for Independence, the national leaders advocated the secularist view of life and pushed to the background religious matters which came to be regarded as those relating to the conscience of the individual.

It is worthwhile to consider the views of Mahatma Gandhi and Pandit Jawaharlal Nehru, the two great leaders of the freedom struggle. Though Gandhiji was deeply religious and Nehru agnostic, they both reached the same conclusion. Gandhiji believed that all religions were true and, therefore, the state should regard them all equal. Nehru, who was a democrat, thought that the secular state should be the foundation of democracy.

The Indian National Congress affirmed its adherence to the principle of secularism when it passed a resolution in 1931 at its session in Karachi. The resolution affirmed religious liberty and protection to the minorities and it asserted that "the state shall observe neutrality in regard

to all religions." This significant resolution provides the key to our understanding of the Congress leaders who later as members of the Constituent Assembly of India framed its Constitution enshrining in it the guarantee of religious neutrality. The framers of the Indian Constitution did not want a complete separation of the state from religion but an equal treatment of all religions and religious minorities.

The provisions of the Indian Constitution (1950)

Art. 25 of the Indian Constitution guarantees freedom of religion and conscience and Art. 26 permits every religious denomination to "have the right (a) to establish and maintain institutions for religious and charitable purposes; (and) (b) to manage its own affairs in matters of religion." Art. 27 and Art. 28 preserve the secular character of the state in India, though it is dominated by Hindus. Hinduism, the religion of the majority community is not the religion of the state in India as Islam is in Pakistan. In other words, there is no state religion in India. The state will neither establish a religion of its own nor confer any special patronage upon any religion or privileges upon the followers of any religion.

Art. 29 and Art. 30 ensure that the state shall not impose the culture of the dominant Hindu community on the religious minorities such as the Muslims, Christians and others. They protect the cultural and educational rights of the minority religious communities.

Characteristics of the Indian secular state

Thus the state in India is secular, since it possesses some important characteristics of a secular state. First, the state treats all religions equally and even the religion of the dominant Hindu community is not shown any special favour. The attitude of the state toward religion is one of benevolent neutrality. Secondly, the state guarantees freedom of religion both to the individual and to the religious denomination. Lastly, no citizen should be discriminated against on the ground of religion. In other words, whatever religion the individual may follow, the state will treat all individuals alike.

Factors favouring the secular state in India

The interpretation of the Constitution by the Supreme Court in matters affecting religious freedom has strengthened the observance of religious neutrality by the state. Art.26 gives a religious denomination the right to manage its domestic affairs in matters concerned with religion. The state cannot interfere in these affairs unless the denomination so exercises the right as to interfere with "Public order, morality or health." Each religious denomination enjoys complete autonomy in the

matter of deciding as to what rites and ceremonies are *essential* according to the tenets of a particular religion they follow. This principle was settled by the Supreme Court in *Sarup Singh v. State of Punjab (1959)*.

Art. 25 deals with the freedom of conscience and religion of the individual. Subject to the restriction which this Article imposes, every person has a fundamental right not merely to entertain such religious belief as may be approved by the judgment of his conscience but to exhibit his belief and ideas in such overt acts as are enjoined or sanctioned by his religion and also to propagate his religious views for the edification of others. This principle was established by the Supreme Court in *Ratilal v. State of Bombay (1954)*.

The most important and controversial case in recent times was the Shah Bano's case (1985). The significant decision of the Chief Justice Y.V. Chandrachud was a landmark in the march of the law towards social reformation. The judgment stirred up a hornet's nest among the Muslim community because the Supreme Court entered into the realm of the Muslim personal law, deriving its sanction from the *Koran* and held that Section 125 of the Criminal Procedure Code overrode the divine injunctions of the *Koran* in respect of matrimony and divorce. The Supreme Court rejected the contention of the appellant that he was bound by the Islamic law to maintain his divorced wife for the period of *Iddat* only (i.e. the period of three menstrual cycles), and he had no obligation to maintain her after that period, even if she did not remarry. The Court held that under Section 125 of the Criminal Procedure Code, a divorced Muslim woman did not cease to be a wife so long as she remained unmarried and her husband was bound to maintain her. In other words, the right of the divorced Muslim wife to claim maintenance is not affected by the personal law, since she is unable to maintain herself.

The reasoning of the Supreme Court in Shah Bano's case reveals its constructive role in shaping the law of our country. Though strict canons of judicial probity were observed in interpreting the law in Shah Bano's case, it could not be denied that the informing spirit of that interpretation was secular. The Supreme Court observed,

> These provisions (Sec. 125 (1) (a) and (1) (b)) are too clear and precise to admit any doubt or refinement. The religion professed by a spouse or by the spouses has no place in the scheme of these provisions. Whether the spouses are Hindus or Muslims or Christians or Parsees, Pagans or Heathens, is wholly irrelevant in the application of these provisions. The reason for this is axiomatic, in the sense that section 125 is a part of the Code of Criminal Procedure, not of the civil laws which define and govern the rights and obligations of the parties belonging to particular religions, like the Hindu Adoptions and Maintenance Act, the *Shariat*, or the Parsi Matrimonial Act.

Apart from the constructive role of the Supreme Court, other factors contribute to the continuance of the secular state in India. First, the large and powerful religious minorities, such as the Muslims, Sikhs and Christians, in India, and their role in the democratic politics of the country strengthen the continuance of the secular state in India. Secondly, there has been the influence and example of Jawaharlal Nehru who both by precept and practice fostered secularism in our country. Lastly, the sociological factors like industrialisation and urbanisation and the spread of scientific technological attitudes among the people have been strengthening the secular character of the Indian state.

Challenges to secularism in India

Indian secularism enshrined in the Constitution has been challenged by various forms of communalism. Unless we tackle this problem with vision, courage and resoluteness, it will undermine the foundations of Indian secularism and threaten our national integration by increasing communal tensions; it will hinder the economic development of the country and inhibit social interaction among the Hindus and Muslims.

The Hindus worship the cow and consider slaughtering it a sin. In north India there was a persistent demand by the Hindus in the late 1960s for the ban on cow slaughter. The Jana Sangh, the predecessor of the present Bharatiya Janata Party (BJP), supported the demand for the ban. In 1966 the Sankaracharya of Puri undertook a fast for total ban on cow slaughter throughout the country. The argument of the supporters of the ban is that in a democratic state the wishes of an overwhelming majority of its citizens should be respected and given legislative expression. Though there is justification in the argument of the supporters of the ban on cow slaughter, is it democratic to ignore and brush aside the wishes of those who are beef-eaters? Would not a total ban on cow slaughter be an encroachment on the rights of those such as Christians and Muslims who do not believe in the sacredness of the cow and eat beef? So, a total ban on cow slaughter is as undemocratic as total prohibition of liquor. For a total ban on cow slaughter infringes the right of beef-eaters. Weighing the pros and cons, we can opt for restriction instead of total ban. The legitimate demands of those who demand the ban on cow slaughter may be conceded. For example, people should not be compelled to eat beef or to send their own cows to the slaughterhouse. No cow slaughter should be carried out in the vicinity of Hindu temples.

Conclusion

We have to abandon our age-old way of viewing the cultural, social and political problems in an attitude of blind adherence to religion.

We have to interpret the injunctions of religion in the light of the criteria provided by the sciences of man and nature. Such an outlook which is truly secular will cure the mind that breeds communalism.

For discussion

1. Would you consider your village or town or city secular? First of all, you may ascertain the percentages of the religious groups. Then you may consider the interrelationship among these groups. How will you characterise this interrelationship? Cordial? Tense? Mutually suspicious? Apathetic?

2. Has there been any attempt to understand each other's faith? If yes, describe in some detail. If no, why hasn't there been any?

THE ISSUE OF COMMUNALISM

Somen Das

Communalism is endemic in India. In the name of religion, region, language and caste, it jeopardises the unity and integrity of the nation. Communal riots between Hindus and Muslims (in Aligarh in 1978, Jamshedpur in 1979, Moradabad in 1980, Hyderabad in 1981, Meerut in 1982, Bhiwandi in 1984, Ahmedabad in 1985, Meerut again in 1987) in a tragic way testify to the onslaught of communalism. Thousands die unnecessarily as a result of these communal riots. The recent Ram Janmabhoomi-Babri Masjid controversy also threatens the integrity of the nation. The situation in India can be described in the following words:

> The political parties in our country are far below on the evolutionary scale. All parties, no matter what ideology they propound, multiply by splitting into two like amoeba, the earliest form of life that appeared on the earth. Indian politics is positively in the amoeba stage and how much it has to evolve to become an effective instrument of social reconstruction and radical change is still an enigma engulfed in ignorance. The distance from the amoebic stage to the atomic one is aeons. And the vast qualitative difference between amoeba-splitting and atom-splitting has to be grasped in proper perspective. If a split produces additional creative energy it is to be encouraged. The political situation in India calls for continuous ideological bombardment to eliminate the dead elements from the nuclei and to release new energy in abundance by fission. The methodology is first fission and then fusion. But what we have at present is utter confusion. (from *Negations*, April-June 1982)

What is said about the political parties in India, *mutatis mutandis*, could be applied to the communal issue in this country. In this chapter the issue of communalism will be examined briefly, particularly, from a theological-ethical perspective.

Meaning of communalism

In the narrow sense, communalism refers to that attitude or action which emphasises the claim of primacy ahd exclusiveness of a communal group delimited by religion, region, race and caste and demands solidarity of its members in thinking and doing. It is an attempt to absolutise the group to the exclusion of other communities as the Shiva Sena has done in Maharashtra or Bajrang Dal in Bihar recently. Akali Dal in the Punjab, DMK in Tamilnadu, Telugu Desam in Andhra Pradesh and Muslim League in India are other examples of political parties which are basically communal. In a broad sense, it is defined as that philosophy which stands for the promotion of the exclusive interests of a particular caste or ethnic

or linguistic group. Thus it must be stated that this problem must be discussed, taking into account the various forms of communalism which are equally vicious and pernicious. There is an intrinsic relationship among them.

The nature and extent of this issue in India

On the basis of both these understandings of communalism, we are in a position to draw some implications. It is a partial or sectional view of the communal reality prevailing in India. It is quite irrational and results in conscious or unconscious deception. It is essentially prejudicial and discriminatory in character. It is parochial and also divisive.

It is basically reactionary, as it results in fragmentation which is not conducive to the working for a just society. It is used as an ideology by the ruling class and power elites to whip up emotions in the name of caste, language, religion or region to capture political power. There is obvious communalisation of politics and politicisation of religion in India. There are people, both inside and outside the country, who perpetuate the pattern of "divide and rule" because it helps them to monopolise power. At this juncture we need some clarifications about various terms we use with regard to this problem.

In a pluralistic society like India, ethnicity or ethno-nationalism is a reality. Ethnicity refers to the common historical heritage such as race or culture or language or religion or anything which binds together a group as a community. It is an extended form of family or kinship. Associations are formed on the basis of caste or religion or language to promote the interests of the members. This is where we have to affirm the sociological reality of communities. We are all born and bred in a community—nurtured and nourished by it. In a sense we can say that community is written into the very constitution of the human. From this point of view, we have to promote and pursue actively our communal life and not indulge in individualistic enterprises which negate the very sense of wholeness. We are communal creatures and must affirm our communitarian character and identity without losing the sense of togetherness.

Some scholars think that though communalism is parochial to the extent that it excludes and rejects other communities, several factors such as interaction with other segments, spatial mobility and receptivity to new ideas raise it to a broader and potentially secular level. This process could be termed *communalisation*. At this level we have to emphasise diversity in the midst of unity. Emphasis on unity should not jeopardise the richness and diversity of our people. Divisions based on communalism have to be overcome but diversity must be preserved and promoted in

democratic and secular ways. Obviously, we cannot work on the facile assumption that India is one, homogeneous and monolithic. In and through the mutual enrichment of communities in India, there is an engendering process through which a new identity is affirmed and a new India shaped. It is possible for the oppressed and the exploited communities in India to use communalism as a progressive tool to protect themselves from their oppressors and assert their rights. Ezhavar used *Sree Narayan Paripalana Yogam*, the *Harijans* the Neo-Buddhist movement, and EVR the *Periyar* movement. These are some of the examples of a more positive kind of communalism aiming towards justice and liberation. To a great extent, mass conversion to Christianity or Islam as a social protest or the *Veerasaiva* movement in Karnataka are other examples which are positive and valuable in character. We are talking of people who have been domesticated and rendered dependent through centuries and such movements have resulted in the conscientization of such people. That is a hopeful sign for India. Therefore, it is important to distinguish such positive and valuable forms of communalism from the negative forms which are basically exclusive, destructive and disruptive.

Religious communalism in India

Today, in India, we are faced with the problems of Islamic fundamentalism, Hindu revivalism and Christian conservatism. To this has been added Sikh extremism and consequent terrorism. These forces collectively promote communalism in this country. Some religious leaders bless such forces and legitimise them. Politicians and political parties exploit such communal feelings to their advantage and win votes. They encourage such fascist, fanatical and intolerant forces.

Religious communalism has created unnecessary politicisation and unhealthy polarisation which are sterile and irrelevant rendering our national and individual life fragmented. In 1978-79 the Freedom of Religion Bill, introduced by an independent member of the Indian Parliament, Om Prakash Tyagi, is an example. It sought to politicise religion in the name of freedom. It was a deliberate attempt to deny the rights of the religious minorities in secular India and also to make an issue out of a non-issue in a poor country like ours.

More recently, in 1986, the Muslim Women (protection of Rights on Divorce) Bill was introduced and passed in Parliament. It is another attempt to institutionalise discrimination against women in general and Muslim women in particular. It has excluded, significantly, Muslim women from the purview of Section 125 of the Criminal Procedure Code Shah Bano has stirred up a hornet's nest. This would have been a good opportunity to introduce reforms, in ancient religious codes like *Shariat*

which would approximate to modern condition and context. Instead, the politicians yielded to the pressures from the fundamentalists and *talaque* continues to be easily available to Muslim men. These are the forces that divert and dilute the attention of people from more central issues confronting the nation. These attempts militate against the secular character of the country and keep religion and politics in tension. The various religions of the country must contribute to the creativity of its political life. They must help to shape the political life giving it a focus and direction.

There is a concerted move on the part of Muslims to oppose the common civil code. Our government has suddenly woken up to the problem. The President of India talked about the abuse of religion and said, "Experience has shown that the communal and fundamentalist forces, aided and abetted by external elements, are challenging our basic values of nationalism, secularism,democracy and socialism." The former Prime Minister, Rajiv Gandhi, hinted at a legislation for separating religion from politics. He said, "It is time to concretise these issues... and not leave them in a nebulous state but specifically initiate in motion certain steps to separate politics from religion." That augurs well for the secular vision of this country.

Apartheid system in South Africa

At the global level, the issue of communalism expresses itself in terms of racial segregation on the basis of colour. At this point I would like to focus on racism as communalism with particular reference to South Africa. The social system obtaining in South Africa is called apartheid which literally means "colour apart". It is a form of racial discrimination actively and directly supported and sustained by the very Constitution of that country. Under this law, a vast majority of the population, about 26 million blacks, 2.5 million coloured people and about 1 million people of Indian origin are openly segregated by a minority of 5.0 million white people. This system over the years has resulted in economic deprivation and political powerlessness of the nonwhites. It is a situation of dominance and dependence. The nonwhites have been denied their fundamental rights—rights to dignity and equality. They cannot maintain their dignity in their own country. The apartheid system is an affirmation of a master-slave relationship in the modern world. It has given birth to its own kind of communalism based on colour.

We believe that the human race is one in origin and in its essential nature. Texts in the scriptures testify to God's desire for a community of universal love based on a relationship of equality and mutuality. Therefore, in India, with her tremendous pluralism, we cannot content ourselves with coexistence of communities but a pro-existence where there is

mutual enrichment and learning to grow into the other. That is the challenge and responsibility. Communalism in its various forms is an open and direct affront to God's vision for the future of humanity. The God of justice calls us to fight such forces and dismantle such systems that divide and destroy communities of people. Therefore, in positive terms, it is imperative to promote and encourage pluralism as a gift of God. We have to affirm categorically the plurality of reality, both human and divine.

For discussion

1. What does the author mean by positive communalism? Do you think that every regional party should be positively communal?

2. How are friendship and peer groups formed in your college? Do you think there could be underlying (negative) communal motives? If yes, is there any way of discussing this issue?

3. Has any communal clash broken out in your locality? If yes, attempt to narrate the incidents.

4. Express your views about a caste-based political party?

5. Do you think the idea of a global community and that of positive communalism are mutally opposed to each other? If yes/no, why?

COMMUNALISM IN RURAL INDIA: A CASE STUDY*

Brindavan C. Moses

Politics is, of necessity, concerned with disagreements and conflicts actual or potential which arise out of social diversity. It has, therefore, its origin in differences and inequalities due to social, religious and economic structures. These differences form the bases of interest groups. There may be an agreement between interest groups (for instance, Muslims and Harijans) over the action which they can take in opposition to other interest groups (caste Hindus). Indeed, rural Indian politics is mainly a matter of coming to terms with these disagreements through more or less formalised, political institutions and processes.

Political institutions do not operate in a vacuum. They tend to find bases in society either through existing organisational forms or through newly invoked structures. A significant feature of contemporary India is the qualitative change taking place in its traditional structures of power. A feeble legislative attempt was made in Independent India "to ensure to all its citizens justice, social, economic and political...." With a view to 'modernise' the traditional Indian society and usher in a socialistic pattern of society, adult franchise and a series of Five Year Plans were introduced. New types of structures such as political parties, statutory panchayats, various governmental departments and so on have come into being since Independence and penetrated into the rural areas. However, a 'modernising' society like India with centuries of established traditions and entrenched customs is neither really modern nor hopelessly traditional. It moves from one threshold to another, transforming in the process both the indigenous structures and attitudes, and the newly introduced institutions and ideas. No doubt, the impact of 'modernisation' on indigenous structures is quite strong; it disturbs the 'stability' and 'tranquillity' of the traditional society, very often leading to violent upheavals.

Each structure of power can be examined for its caste/class or religious composition. In the past, at the local level, the entrenched dominant caste was often the principal locus of power. Today, there are political structures of various kinds such as political parties, traditional and statutory panchayats, social/cultural organisations (but

*Adapted from his, "Caste, Communal Politics and Society," *Religion and Society, Silver Jubilee 1983,* pp.16-43.

some of them in reality, fronts of political parties in disguise) and so on. However, a particular dominant caste may still be the principal locus of power by being highly represented in the local, political and other institutions.

Two kinds of change are noticed in the politics of Tamil Nadu. Firstly, power has shifted from the brahmin caste to others. For instance, in several districts, *tēvar, vaṉniyar* and *naṭār* have wrested control over village politics from brahmins and other 'high' castes. This has occurred not only at the level of village politics but also at that of state politics, when brahmins were displaced by non-brahmins in important political bodies.[1]

Secondly, the caste system has penetrated the old structures of power and also the new ones that have emerged during the last 35 years. This implies that it is necessary for those aspiring for political power to cultivate the support of various caste and religious groups. This support may be given in return for material benefits. But these benefits cannot be obtained directly or immediately and at all times in exchange for every kind of support. The mobilisation of support, therefore, requires other nonmaterial attractions such as caste superiority, protection of religion, brotherhood, etc.

Caste may enter into the political process in many ways. Firstly, appeals may be made to caste loyalties in a very general way; for instance, *vaṉniyar* should vote for *vaṉniyar* candidates. Secondly, networks of interpersonal relations are activised and strengthened both during elections and crisis situations, for mobilising support along caste lines. Since kinship, marriage and commensality are within the boundaries of caste, intracaste relations are very important. Thirdly, the caste associations may seek to articulate their interests in an organised way[2] and politics does try to organise through such structure. Drawing upon these interacting structures in their contest for power are the real power elites – the real beneficiaries. They mobilise caste/religious groupings and identities in order to organise their power. They find in these groupings and identities extremely well-articulated and flexible bases for organisation which, in turn, lend themselves to political manipulation. In short, traditional loyalties towards

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[1] Andre Beteille, "Caste and Political Group Formation in Tamil Nadu," in Rajni Kothari (ed.), *Caste in Indian Politics* (Orient Longman, 1973), rpt., pp. 259-94; Government of India, *Report of the Backward Classes Commission*, Second Part, vol.III-IV, 1980.

[2] The *Vaṉniyakkula Kshatriya Sangam*, the *Nadar Mahajana Sangam*, etc.

caste and religion are exploited by the power elites to achieve political power. Thus, in any conflict between rival power elites, both find it handy to get the backing.

In the past, studies on caste have viewed it mainly as a system of social stratification. But caste is also a system of conflict and interaction. Factionalism and caste cleavages, patterns of alignment and realignment among the various castes and subcastes and a continuous striving for social mobility have always been and are the prominent features of the caste system.

Expanding franchise, liberal education, governmental patronage and grant of special privileges to Backward Classes, Scheduled Castes and Scheduled Tribes; economic planning, especially agricultural development, various legislative measures like land reforms and social welfare programmes since Independence have altered the social structure in rural India. Economic opportunity, governmental patronage and positions of power offered by the new institutions and the new leadership have, indeed, drawn the once inarticulate sections of Indian society into the struggle for power in this changed situation. Shifts in the social and economic positions of different groups have disturbed the "social equilibrium" and led to tensions and struggles of various nature in the towns and countryside. New leadership has emerged and is supported by the castes which have become economically and socially assertive in the recent past. A notable feature of this new leadership is its readiness to accept more than one caste or religion.

In the pre-Independence days, the struggle for power and economic benefit was, at first, confined to the 'upper' castes (brahmins vs *mutaliyār, cettiyār* and others). For instance, the Justice Party came into existence in 1917 to challenge the near-monopoly of brahmins in governmental services and professions; the leaders of the Justice Party were drawn from among the elites of the non-brahmin 'upper' castes like *vellālar, mutaliyār, nāyṭu, cettiyār, reṭṭi* castes who in fact represented the zamindari, landed and trading interests in the then Madras Presidency. Gradually, with the rise of the Backward Castes like *nāṭār, vaṉṉiyar, tēvar*, multicaste and multifactional alignments came into existence. Political mobilisation for support of various castes and factions, in the course of time, gave rise to a process of 'cooperation' from other castes. However, till recently, the Backward Castes, with the exception of *vaṉṉiyar,* and *nāṭār*, who had powerful caste organisation of their own, were dependent on the entrenched dominant castes. Dependency on the 'upper' and 'backward' landed castes is still very strong among the Scheduled Castes. It is only since the late 1960s that

the process of mobilisation of the Scheduled Castes on a mass scale is taking place. However, this process of mobilisation, though of marginal benefit to the Scheduled Castes, is largely used by political parties and communalists for the purpose of winning their support.

Thus in this changed context, caste has gained a new status, and its ritualistic and ascriptive aspects have become less important. The following incidents at a village in South India will show how caste and religion have become politicised and how politics has to contend with caste and religion for mobilisation to enable sharing or wresting of political power.

I The scenes of action

Puḷiyaṅkuṭi, an urban agglomeration (Municipal Corporation) is about 25 km from Teṉkāci of Tirunelvēli district in Tamil Nadu. It is part of Civakiri subtaluk. The dominant castes are *tēvar (maṟavar)* and *nāṭār*. Although Hinduism (77.9 percent) is the dominant religion, the trade in Puḷiyaṅkuṭi is controlled by the Muslims who also own large tracts of land in and around this town. Weaving is an important occupation for a large number of them.

The Muslims and Scheduled Castes (SCs) together total 13,030 (34 percent of the total population, 38, 742) at Puḷiyaṅkuṭi. Two thirds of the SC working population still eke out their living on agricultural wages. More than 80 percent of the SC labour force depend solely on agricultural activities. 41.9 percent of the non-Harijan workers are employed in nonagricultural activities. Not many SC labourers find employment outside agricultural activities.

Ayyāpuram is an exclusive Harijan settlement 5 km east of Puḷiyaṅkuṭi. It has a total population of 584 of which more than 90 percent are Harijans. Although predominantly an SC village, it has high literacy rate (41.6 percent), much higher than the SC and general population literacy rates at Puḷiyaṅkuṭi (24.6 and 36.6 percent respectively).

II Background

a. Traditional *Maṟavar*-Harijan rivalry

The Harijans of Ayyāpuram are economically better off than the *maṟavar* of Puḷiyaṅkuṭi. Nearly 100 families own lands and a few use pumpsets to irrigate their lands. During lean and off-seasons they migrate to Kerala or Madras in search of work. Some of them are well-educated and exposed to the influence of urbanisation.

They are fairly conversant with the politics of their districts and are neither dependent on nor submissive to the *maṟavar* anymore. In fact, the landholding Harijans employ the *maṟavar* of their village for their farm work. Besides, a long-standing enmity between the Harijans of Ayyāpuram and the *maṟavar*, an early issue of conflict with the *maṟavar* was the diversion of irrigation water, originally used by the Harijans, to the lands of the *maṟavar*.

b. Mīṉāṭcipuram conversions

In a sense, the conversions that took place at Mīṉāṭcipuram triggered off the caste-communal riot. The relations between Harijans and caste Hindus had been none too good even before, but have rapidly deteriorated since then. Nothing substantial was done to redress the grievances that prompted the Harijans to embrace Islam and further, no attempt was made to check the growing hostility between the different communities.

c. RSS activities

The RSS had begun its propaganda at Puliyaṅkuti, and in a few other nearby villages more than a year ago. RSS volunteers were trained regularly; drills were conducted for them. Vishwa Hindu Parishad (VHP), a front organisation of RSS, has been vigorously active in the interior areas of Tirunelvēli district since Mīṉāṭcipuram conversions in 1981.

The strategy of the RSS is to unite the Hindus of all castes including the Harijans (if it can manage it) to fight for political power. It successfully polarised people entirely on communal lines. Even traditional party loyalties were no obstacles.

d. Muslim-Harijan joint front

The idea of a joint front for Muslims and Harijans was mooted by the Muslim leaders and in April 1982 it materialised when *Camatva Cakōtaratva Caṅkam* (SSS; Organisation for Equality and Fraternity) was floated. The President of the society is Rifayee, a former member of Parliament (MP) and Vice-President of the State Unit of the Muslim League and its General Secretary is his brother Sahul Hammed, the lone Muslim member of the Tamil Nadu Legislative Assembly (MLA). This society, like the Christian missions, runs schools and orphanges and, according to confirmed reports, gets large sums of money from Muslim countries for converting Hindus to Islam.

III Specific incidents
A diary of events

12 March 1982 : A non-Harijan bus driver was said to have beaten up a Harijan youth driving a bullock cart on the grounds that the latter had obstructed the bus. This resulted in a clash between the *maravar* and the Harijans at Kammappaccēri near Kaṭaiyanallūr.

April : SSS started.

2 May : Caste Hindu leaders and elders hoisted the *ōm* flag, a saffron coloured flag with the inscription of *ōm*, used by an RSS front organisation. The flag was hoisted following a clash between the Harijans and the caste Hindus at Puliyaṅkuti. The Harijans, on their part, hoisted their green and red flag, the emblem of the Scheduled Castes who had formed the *Tēvēntira Kula Caṅkam*. Both these flags replaced the various party flags which had been hoisted at Puliyaṅkuti, Kaṭaiyanallūr and a few nearby villages.

5 May The SSS organised a series of meetings and in the first one, held at Cuppiramaṇiyapuram, Harijans from Puliyaṅkuti participated. Joint meetings of Harijans and Muslims were also held at Kaṭaiyanallūr, Ayyāpuram, Puliyaṅkuti and Muttucāmipuram. These meetings were addressed by the Muslim leaders who, however, made no overt attempts to convert Harijans to Islam. But they harped on the theme of Muslim-Harijan unity.

8 June : The *Ñāṉa Ratam* (Chariot of Wisdom), a mobile van of the VHP, carrying the two-foot bronze idol of Lord Cuppiramaṇiyaṉ entered Puliyaṅkuti. The *Ñāṉa Ratam* was an ambitious project inaugurated by Caṅkarāccāriyār of Kāñci Kāmakōṭi Pīṭam. It had been launched by the VHP about two weeks earlier at Tiruvaṇṇāmalai temple. This was a scheme costing Rs.2,00,000 which envisaged intense propagation of the Hindu dharma especially in places where conversions to Islam had taken place. A group of volun-

teers who accompanied the *ratam* performed *pūcai* and also addressed the gathering, especially appealing to the Harijans to stick to Hinduism and to those who had embraced Christianity and Islam to return to their original religion.

Worship was conducted in Tamil instead of Sanskrit so that people could understand it. Devotees of all castes including Harijans were exhorted to offer *pūcai* to the idol. The chief objective of this project was, reportedly, the promotion of unity among the Hindus.

While the *ratam* passed through Cokkampatti, a *maṟavar* village in Tenkāci taluk, on its way to the meeting at Kataiyanallūr, some 15 km away, the *maṟavar* stoned it, leaving fifteen Harijans and a Muslim injured. The reason for this attack is not known. However, the caste Hindus say that the *maṟavar* were enraged by the slogan "Kill the *maṟavar* men and marry thier women" raised by the Harijans while proceeding to the meeting at Kataiyanallūr. But it seems likely that the *maṟavar* were vexed about the *ratam* not being allowed into Puliyaṅkuti and about the growing unity of the Harijans and Muslims.

9 June : The Harijans returning from the meeting in buses were again assaulted by *maṟavar* at Cokkampatti in the morning. So in return, the Harijans looted a textile shop, owned by a *maṟavan* from Cokkampatti while returning to Puliyaṅkuti. The Harijan mob, on alighting from the buses brought down the arch put up to welcome the *ratam* in an attempt to stop the vehicular traffic passing through Puliyaṅkuti. They also damaged five state transport buses.

About 200 Harijans attacked the police station at Puliyaṅkuti when some of them were rounded up by the police. The police fired in the air to disperse the mob.

10 June The police allege that the Harijan mob gathered again in the evening in front of the police station

and attacked it forcing the police to open fire this time at the mob. Reportedly, the police raided the Harijan colony, killing one on the spot and bayonetting another to death.

Almost at the same time about 150 houses of *muppanār* (most of whom are weavers) were set on fire most probably by the Muslims. It is said that both had a long-standing misunderstanding on a number of issues.

Two Muslim shops were ransacked and one Muslim was stabbed to death, probably by caste Hindus. The value of Muslim property destroyed by them was quite staggering.

11 June : Around 11 am a mob of about 2000 caste Hindus, mostly *maravar*, from the nearby villages, marched to Ayyāpuram armed with deadly weapons. After hacking many to death and leaving 21 others with different degrees of injuries, they reduced 41 huts and several haystacks to ashes. Cattle were roasted alive in the arson and lot of property was destroyed. The apparent reasons for the attack are: a) refusal of Harijans at Puliyankuti to allow the *ratam* to enter their quarters; b) the incidents (of 8 June) at Cokkampatti, and c) the looting of a textile shop at Puliyankuti belonging to a Cokkampatti *maravan*.

12 June Men from neighbouring villages like Āvutaiyāpuram (Nelkattāncēval) and Ālankulam attacked Muttucāmipuram, another Harijan village near Puliyankuti and set fire to 20 houses and a few haystacks, stole some goats and roasted a few of them alive. Adjoining areas where Muslims lived were also the targets of attack. Suspecting it to be the act of the *maravar* of Kunnakkuti village in Ramnad district, the Harijans of Centattiyāpuram set fire to the haystacks of *maravar* and stoned their houses.

Conclusion

Incidents at Puliyankuti have clearly shown that caste feelings, politics and religion are very closely related. We have seen how different political parties (or movements or communal forces or interest groups within single political party) manipulate these not only to organise public activity but also to achieve their political objectives. We have also seen how a sense of discontentment felt by a caste (for instance, the Harijans) provides a viable basis for the mobilisation of the masses of that caste for the assertion of their rights.

For discussion

1. Discuss the factors that strike you as "potentially explosive" in the rural community obtaining in our case study.
2. Can you see a pattern in the violence that followed the *Ratam* procession? What went wrong? List out the measures that could have prevented such large-scale damage to human lives and property.
3. Discuss the role that religious leaders, caste leaders and law-enforcing agencies can play in a rural atmosphere like Puliyankuti.
4. Education alone could effectively counter the attempts of the politicians to manipulate the religious, political and communal feelings of the masses. Discuss with reference to the present case study.
5. Do you think art, science and technology could mobilise people as effectively as religion, politics and community could? If yes/no, why?

RELIGION AND THE ENVIRONMENT

David L. Gosling

Introduction

In the course of the inaugural lecture of the Cambridge Lectures on Environment and Development, Shridath Ramphal, Commonwealth Secretary-General, maintained that before sustainable development can become established as a global working principle there will have to be "a transformation of attitudes in some fundamental respects..., a recognition that we all have an obligation to future generations as well as to ourselves..., the need to see environmental problems in interdisciplinary terms..., [and] that we must think of our planet not only as a world of many states but also as the state of our one world..."[1]

Of these four prerequisites the first, a transformation of attitudes, is legitimate territory for religions; the second clearly falls within the accepted prophetic traditions of Judaism, Christianity and Islam (with the exception of certain fundamentalist groups which preach the destruction of the world as a consequence of human wickedness); the need to study in interdisciplinary terms has been increasingly recognised by those who are willing to understand religion as a universal phenomenon; and the willingness of major world religions to think globally is evidenced by the fact that all of them are involved in various international and ecumenical religious and secular bodies committed to global solutions to common problems. Thus, for example, the United Nations Environment Programme receives periodic inputs from all major world religions, and the Festival of Faith and the Environment held in Canterbury in September 1989 included major contributions by Christians, Buddhists, Bahais, Muslims, Hindus, Jews and Sikhs.[2]

Some misconceptions

It is qften supposed that in ancient times when religions tended to be more influential than now the relationship between human life and the rest of creation was harmonious, this relationship having been subsequently destroyed by secularisation and technological and industrial progress. Sometimes and in certain places this may be correct. But the

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[1]Shridath S. Ramphal, *Endangered Earth*, Commonwealth Secretariat, 1989, pp 10-13.

[2]*Creation Eucharist*, Festival of Faith and the Environment, September 1989, pp 21-22.

ancient world of Greece and Rome, for example, was responsible for an enormous amount of deforestation around the Mediterranean basin; even the Jews, with their careful agricultural regulations governing such matters as the jubilee year when land was left fallow in order to recuperate, were less than meticulous in other respects.

Thus the majestic cedars of Lebanon praised for their strength and longevity in the *Psalms* were soon cut down to fuel innumerable wars and to provide wood for the restoration which followed them. And although the Jewish Scriptures are often cited (usually by Christians) as reflecting a society which treated the environment in an ecologically sensitive manner, there are no grounds for maintaining that the Jews were any better in this respect than, say, the Indus Valley Civilisation which preceded them by a thousand years. Our distant ancestors probably viewed 'nature' much less sentimentally than we do today, at least in the West.

And if relationships between human life and nature in the past were much less harmonious than is often supposed, those of more recent times may also be much more complex, differing from continent to continent. Two examples from Europe and Asia will be summarised to illustrate such differences.

When modern Christian theologians try to address themselves to the problems raised by science, technology and the environment they tend to be faced by two major sources of difficulties. The first is the legacy of Kantian thought with its limited notion of what constitutes moral behaviour and activity; the second is the Western tendency of making unnecessarily sharp distinctions between God, humanity and the rest of the universe. The former is fairly domestic in that it reflects a particular religious and philosophical tradition in the West, whereas the latter relates to a much broader range of Greek and Judaeo-Christian thought.

Kant believed nature to be a collection of irrational forces which needed to be subdued and kept in check by human effort. 'Man' was a rational and spiritual being whose holiness was associated with his moral personality, and part of his moral duty was to subdue nature. Thus the world of morality, with its inherent possibility of holiness, was sharply distinguished from the world of nature.

The ideas of Kant and of many Christian theologians influenced by him illustrate two essentially Western theological presuppositions which seem to prevent modern theology from finding a way out of the dilemma posed earlier. Firstly, the creator God is absolutely world-transcendent, nature is absolutely nondivine and the only place for divinity is God in his nonworldliness. Secondly, there is a sharp qualitative dis-

tinction between humanity and nonhuman nature which gives the former 'spiritual' freedom and reduces the latter to an absolutely subordinate role. Thus nature is the arena for our spiritual freedom and its worth is purely instrumental, no moral limits are imposed on humanity with regard to the use of nature, and there are assumed to be no intrinsic internal limits within nature.[3]

That nature does, in fact, possess internal limits of its own is becoming increasingly apparent after decades of abuse. When history books are written it is likely that the present century will be stigmatised as one in which priceless and irreplaceable chemical and mineral deposits and genetic species which took thousands of years to form were squandered by a handful of naively expansionist and consumer-orientated governments. It will have to be sadly acknowledged that their mistaken view of progress was often underscored by interpretations of Christianity which were woefully misguided.

According to most Asian religious traditions God (or whatever entity stands in the place of God), humanity and nature flow into one another. But in India, for example, this did not make much difference to the manner in which an essentially Western pattern of progress was experienced, and Prime Minister Nehru's commitment to rapid industrialisation fostered dependencies which in the long run have been detrimental both to human communities and to their habitats.

But whereas Indian society as a whole suffered from patterns of 'development' which achieved little of permanent value, the encounter between India and the West also fostered reformulations of religion which provided illuminating insights into the problems of social and environmental degradation and ways of solving them. Gandhi, for example, who at the end of Nehru's premiership was considered to have been little more than an idealistic dreamer, has come to be recognised by many as a prophet whose vision of village 'republics' based on the essentially Hindu doctrine of *sarvodaya* (the awakening of all) might have done much to break the neocolonial patterns of dependency which many people found themselves locked into as loans, escalating fuel prices, and tariffs that took their toll. Gandhi had preached an unusual blend of ancient and modern wisdom—home-spun cotton, asceticism, *satyagraha* (truth insistence), *ahimsa* (nonviolence, essentially derived from Jainism), decentralisation and participatory government (except where he himself was concerned!). In retrospect might it not all have added up to a

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[3]David Gosling, "The Morality of Nuclear Power," in *Theology*, LXXXI (679), January 1978, 27.

viable alternative to the grandiose white elephants of the new Raj and its Western acolytes? "What do you think of Western civilisation?" an admirer once asked the Mahatma. "I think it's a good idea," came the tart reply.

The way forward to a unity of perspective, incorporating what we call the religious and the secular both in a new framework, seems to be a formula whereby religion offers much to the improvement of our world in every aspect including the state of the environment. And the work of M.K. Gandhi is a potent example of such an approach. Gandhi's efforts were not directed primarily at environmental problems, but his integrated vision implicitly involves a more benign attitude to nature than that of governments and planners. But it was not enough merely that India possessed a religious tradition in which all life and nature were revered. It needed a Mahatma to set the philosophy within the dynamic of lived ideas and images which captured the imagination of the public.

Religious presuppositions

In October 1988, a Harvest Festival in Cambridgeshire featured the following: an agricultural exhibition which highlighted ways in which modern agricultural methods, including the intensive use of chemical fertilisers and pesticides, are used to maintain an aggressively affluent lifestyle; prayers thanking God for his goodness as represented by enormous crops of just about everything; performances by the Royal Lancers and Royal Fusiliers; and a hymn which combined military success, earth's bounty and the well-being of future generations, attributing all three to divine providence:

> Thy strength made strong our fathers' hands,
> A people great on seas and lands,
> To win, till earth shall pass away,
> Such honour as the earth can pay.
>
> O God, whose mighty works of old
> Our fathers to their sons have told,
> Be thou our strength from age to age,
> Our children's children's heritage.[4]

The anthropocentrism of these and other verses in the hymn is essentially that of a small child who relates the world to himself and his country and expects God to intervene periodically to provide victory in war and bountiful harvests.

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[4] *Hymns Ancient and Modern*, Revised (1950) (William Clowes and Sons Ltd.), p. 394.

The underlying idea of a God who made nature rather like a huge clock at some time in the distant past, and then left it except for occasional interventions or 'miracles' is known as deism, and enjoys considerable popularity, especially among fundamentalists and others who explain the 'miracles' as signs of divine favour or disfavour according to preselected scriptural texts and/or moral prescriptions. Such an approach induces feelings of inferiority and guilt, and presents a picture of God which is diametrically opposed to that of the loving Father of the New Testament, whose rain falls equally on the just and unjust, or the compassionate and merciful God of Islam. In spite of the unfortunate connotations of the Harvest Festival presented earlier, it is important to recognise that mainstream historic Christianity — Roman Catholicism, Orthodoxy, Anglicanism, etc. — has refuted deism in favour of more integrated and continuous relationships between God and the Universe (panentheism).[5] But the Western Christian discontinuities between God, humanity and nature are none the less sharper than those of the Indian religious tradition or in the comparable organic models of feminist theologians such as Sally McFague.[6]

The view that human beings are in some sense co-creators with God and that creation is an open process for which we share responsibility for the future is a theological position which brings theistic religions closer to, say, Theravada Buddhism, which is strictly speaking non-theistic, than the ideas of fundamentalists who believe in a manipulative God who is quite separate from both humanity and nature.

New beginnings

In September 1986 the World Wildlife Fund marked its twenty-fifth anniversary with an interfaith ceremony at Assisi. The five religions represented were Christianity (the Minister General of the Franciscans), Tibetan Buddhism, Hinduism (the President of the Indian Virat Hindu Samaj), Islam (the Secretary-General of the Muslim World League), and Judaism (the Vice-President of the World Jewish Congress). There were five separate liturgies, each of which contained a statement about the relationship between religious faith and the Earth and the importance of living faithfully. The event represented the inauguration of a new network on religion and conservation and marked the be-

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[5]For further details see David Gosling, "Towards a Credible Ecumenical Theology of Nature" in the *Ecumenical Review*, 38 (3), WCC, July 1986, 328.

[6]Sally McFague, *Models of God* (SCM, 1987).

ginning of a process of building an interfaith community with a common cause.[7]

The recent Canterbury event combined a conference on Christian Faith and Ecology jointly sponsored by the World Wildlife Fund and the British Council of Churches with a simultaneous Festival of Faith and the Environment. Seven major world religions were represented, the Bahais having joined in 1987, the Sikhs at Canterbury. Pilgrims from these seven religions were welcomed into Canterbury Cathedral at the beginning with a short service of psalms, prayers, a reading from *Proverbs* and an anthem, and paschal candles were symbolically lit to represent the spreading of light among all present.

The gathering as a whole was marked by humility, cooperation and the need to grow through differences via mutual sharing and concern for our world. There was an acknowledgement that blindness must be recognised before a way forward can be discovered. The various religious acts of worship followed consecutively, each "for the faithful of that faith." But all were welcome to share in one another's celebration.

The Assisi and Canterbury events were major occasions on which religions affirmed the importance of the environment and urged their participants to new and renewed commitment. There was also an imaginative Creation Harvest Liturgy in Winchester Cathedral in October 1987 at which representatives of Buddhism, Bahai, Hinduism, Islam, Judaism, Sikhism and Taoism were present.[8] On 5th June, 1986 (World Environment Day) the World Council of Churches hosted a United Nations Environment Programme event at which Muslim, Jewish and Christian world religious leaders pledged themselves to "preserve the integrity of creation," and a tree was subsequently jointly planted at the UN.

Attempts have been made by churches and denominations to express the view that creation is one and that religions must share their resources in order to explore appropriate responses to the current crisis. Collectively they represent a move away from anthropocentrism to the belief that we must somehow grow into God. In spite of the exploratory nature of the quest we must act decisively now. There is a move from individualism to interdependence, and nature is increasingly being recogni-

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[7]For further details see *Religion and Nature Interfaith Ceremony*, World Wildlife Fund, September 1986, and *The New Road*, Issue No.1, Winter 1986/87, and subsequent issues.

[8]*Creation Harvest Liturgy and Creation and Harvest Service Book*, WWF and Winchester Cathedral, October 1987.

sed not as a neglected appendage to humanity but as an integral component of the seamless fabric of which we are a significant but not unduly dominant part.

Enlarging the framework

In this section a brief account will be given of two religious expressions of environmental concern. One is taken from Buddhism, the other from Christianity; both are fairly tentative and exploratory.

For the last two decades Buddhist monks in Thailand have become increasingly involved in a variety of developmental activities which have gone hand in hand with a reinterpretation of Buddhism. Most Thai monks come from poor provincial rural backgrounds and ordain at an early age, subsequently using the monastic educational system to migrate via provincial capitals to the Metropolis, where the most able obtain degrees at Mahamakut and Mahachulalongkorn Buddhist Universities. As part of their degree courses they are sent back into the provinces to assist villagers with community enterprises such as rice and buffalo banks, irrigation, handicraft production and many other activities in which women now play a major role. The Thai Government initially encouraged and financed these programmes because it thought that they would help to counter insurgency along the Kampuchean and Laotian borders and provide alternatives to opium production in the extreme north. But the monks became deeply immersed in the social, economic and increasingly environmental dimensions of rural development, and many continued with it after graduation, returning in some cases to their own home areas.

Parallel with this practical concern for the building of self-reliant rural communities has gone a reinterpretation of Buddhism to emphasise its this-worldly teachings as expounded by a number of brilliant scholar-monks of whom Buddhadasa (Putatat) is probably the best known. Putatat lives in a forest ashram in the south of Thailand; the essence of his teaching is that the 'no-self' *(anatta)* doctrine of Buddhism relates primarily not to the denial of the Hindu soul so much as to the process whereby, in this life, we remove the individual self which is the root cause of attachment and craving. This we do via consciousness characterised by 'emptiness' *(sunyata)*, the 'void,' or whatever we call the unconditioned which is Buddhism's closest approximate to God as conceived by theistic religions. Such a view comes close to Mahayana teaching with its stress on the figure of the *bodhisattva*, who finally refuses to ac-

cept his individual right to enter *nibbana* until all sentient beings are able to do the same.[9]

From this thumbnail sketch it should be clear that the monks' involvement in development work, which has increasingly meant improving the environmental context of villages, has occurred together with a major restructuring of classical Buddhism in a manner not unlike some of the shifts noted in the last section, the move away from individualism towards community, for example.

The second example relates to an initiative by churches at the 1983 Vancouver Assembly organised by the World Council of Churches to covenant for Justice, Peace and the Integrity of Creation.

These two examples, one from Thai Buddhism, the other from an international federation of churches, are illustrative of the kind of revolution in religious thinking that must come if religions are collectively to be able to address contemporary challenges. In the prophetic words of the late Mary Clare, former Mother Superior of the Sisters of the love of God:

> We must try to understand the meaning of the age in which we are called to bear witness. We must accept the fact that this is an age in which the cloth is being unwoven. It is therefore no good trying to patch. We must, rather, set up the loom on which coming generations may weave new doth according to the pattern God provides.[10]

For discussion

1. How could religion promote the cause of environment? Could you show how such rituals as those connected with the harvest do this?
2. Could you think of any doctrine of your religion (if you believe in one) which needs to be reinterpreted in such a way that it would uphold the cause of environment?
3. Prepare a plan for an interfaith ceremony on the theme of environment.
4. Could the religions of the world be looked upon as resources for the promotion of environmental protection (as Martin Holdgate, Director General of the World Conservation Union holds) or as forces which tend to make man more exploitative and alienated?

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[9]For further details, see David Gosling, "Thailand's Bare-headed Doctors" in *Modern Asia Studies*, 19 (4), 1985, 761-796.

[10]Mother Mary Clare, *The Simplicity of Prayer* (SLG Press, Fairacres Publications, 1988).

SCIENCE AND FAITH

V.J.Philip

A teacher in a school, it is reported, at the end of the scripture class, introduced the science period with the remark, "And now let us get down to something real." When Napoleon (1769-1821) rebuked Laplace (1749-1827) for not bringing God into his theory of the heavenly bodies, the latter had said, "Sir, I have no need of that hypothesis." The teacher in the school and Laplace were stating more or less that science had superseded religion.

Science : definition

Science may be viewed as an attempt to discover and understand the world around us. It is an objective and largely impersonal study of nature through observation and experiment. Scientific statements are thus always open to verification. Although this was the classical understanding of science, in the last few decades science has undergone a process of 'industrialization' aligning itself with powerful economic and political forces. In the domain of science there is neither room for miracles nor the supernatural. Science neither proves nor disproves the existence of God, and as far as it is concerned, the question is irrelevant.

Faith : definition

Faith, however, is not as easily defined as science for it means various things to various people. It is essential to distinguish between 'faith' as it is commonly used in everyday language and "religious faith" with which we are concerned in this chapter. The former is limited to human relationships whereas the latter invariably includes the divine. "A leap into the unknown," "a believing without the necessity of understanding or seeing," "a peaceful, joyful, restful abiding in God, and evidence of things not seen"[1] are but some of the many ways in which people view 'religious' faith.

Faith is the perception of unseen reality. Faith does not dispense with reason or with the critical view of the world, and it is not a wild leap into the darkness of fantasy.[2] Faith in God resembles in certain ways the faith we have in a friend or the faith that a wife has in her husband. None

[1] *Hebrews* 11:1.

[2] Richard Edwin Koeing, *If God is God* (Wheaton: Tyndale House Publishers, 1974),p.19.

of these is 'blind' faith for each is firmly based on experience. The core of the concept of faith is reliability, steadfastness, confidence — a personal trust arising in a personal relationship.[3] Faith is an awareness of the sphere beyond the senses—a sphere that brings meaning and purpose to life.

Thus we see that 'science' and 'faith' at first sight do not seem to have much in common.

Relating Science and Faith

How can science and faith, seemingly opposed to each other, be related? One way is to consider faith and science as pertaining to two separate areas— the spiritual and the physical. The weakness of this point of view is that the unity and integrity of the created order is lost. The second view is that science and faith are distinct approaches to the same reality. According to this view science deals with such things as "facts and figures"— that which can be demonstrated as in a test tube, whereas faith seeks to indicate ultimate purpose. Thus science can with some confidence deal with the "what, where, when and how" of the world around, whereas only faith can answer the question 'why'. The weakness of this approach is that 'faith' and 'science' are compartmentalized as if they are not compatible. The third view is that faith and science can be integrated to give a wholistic picture of the universe we are in. Since we are dealing with one and the same universe, and God is the creator of it, faith and science cannot contradict each other.

With the rapid development of science, it found itself crossing swords with religion. In their enthusiasm at being able to understand the motion of heavenly bodies and their interest in the theory of evolution, many scientists, like Laplace, saw no necessity for God. How did this situation develop and why did faith find itself being threatened by science? Firstly, it was believed that truth was accessible either to science or to faith, but not to both at the same time. The scientist ridiculed all faiths and beliefs. Either he 'knows' things pertaining to the natural phenomena, or he does not, and if his knowledge is incomplete more experimental observations have to be made. According to the "verification principle," only empirical statements verifiable by sense experience have meaning; other statements in ethics, theology and so on are neither true nor false but meaningless.[4] Faith,on the other hand,emphasizes that there is more to this world than merely natural phenomena. What cannot be

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[3]Alan Richardson (ed.) *A Theological Word Book of the Bible*(London: SCM Press, 1951).

[4]Ian G.Barbour, *Issues in Science and Religion* (London: SCM Press Ltd., 1966), p.122.

comprehended by the senses should be assimilated by faith. In fact, faith has always viewed the senses with some suspicion as their unbridled use has led many astray.

Secondly, science and faith seem to clash over their views of authority. To the scientist, seeing is believing. Even when he exercises faith, it has to be confirmed by his senses. He can have nothing to do with blind belief or an unqualified trust. When cosmonaut Titov returned from his space flight, Khrushchev is reported to have said that the cosmonaut had seen no sign of God in outer space. The Russian radio, reporting the news, said that the flight dealt a "crushing blow to the idea of the existence of God."[5] But men of faith have always held that sight is of secondary importance. It is vital to walk by faith. Their authority rests in God and His revelation.

Thirdly, science and faith seem to have different approaches towards discovering truth. The scientist swears by the "scientific method." He observes and records selected natural phenomena and then compares them with observations made by other scientists, drawing his own conclusions. These are developed into a working hypothesis and, finally, a theory. A scientific theory is made to fit known facts, and when additional facts come to light, the theory is revised or replaced by the new theory. The tremendous success of the "scientific method" lies in the fact that many harmful superstitious beliefs have been exposed and demolished. For example, science demonstrates that illness is caused by certain microorganisms and the cure is not through bloodletting but the administration of the appropriate medicine to fight the microorganisms. The many discoveries achieved through the "scientific method" have given rise to the belief that the only reality is the one described by science, as it alone is empirically verifiable and comprehended by the senses. However, objectivity in science keeps the experimenter, as far as possible, outside the experiment. There is no room for personal prejudices to interfere with the objective understanding of the matter under observation. But faith involves participation in the object of its search — it cannot learn the truth uninvolved. It holds on to the fact that "it is in believing that we understand." A personal involvement and commitment are essential before one sees things truthfully.

Fourthly, science and faith apparently project different "world views" or philosophies of life. It was Bertrand Russell who said "that man is the product of causes which had no provision of the end they were achieving, that his origin, his growth, his hopes, his fears, his loves and

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[5]Quoted in Richard Edwin Koeing, *op. cit.*, p.28.

beliefs, are but the outcome of accidental collocation of atoms... that all the labours of the ages... are destined to extinction in the vast death of the solar system ... if not quite beyond dispute, are yet so nearly certain that no philosophy which rejects them can hope to stand."[6] There is total despair when life is reduced to matter. But faith ascertains both the physical and the spiritual. Insofar as all matter was created by God, the men of faith respected and appreciated it, but their souls were of primary concern to them. They had an unshakable belief in the purpose of this life and of the glorious prospect of life to come.

Inadequacies of the "Scientific Method"

The scientific method tacitly assumes that to study something we must be able to measure it in some way. Many people believe the converse, that what cannot be measured cannot be known. Thus the scientific method is inadequate to demonstrate or prove the existence of love—undoubtedly one of the strongest forces binding humans.[7] Similarly, realities such as truth, beauty and happiness defy measurement and analysis. It was at one time thought that scientists, by the application of the scientific method, could eventually explain everything that was mysterious in nature. But as more and more facts came to light more and more remained unexplained. Scientists soon learnt that there was a limitation to their method; they could explain the 'how' of things, but had to leave unanswered the question 'why'.

The hallmark of the scientific method is objectivity. However, this claim to objectivity has been questioned as it is increasingly becoming evident that the object of study cannot be fully known "independent of the observer" for it is influenced by him in the very process of the measurement. It has become difficult to distinguish between an independent observer and a passive one. According to Heisenberg's Uncertainty Principle, in order to know the position of an electron it must interact with a wave of light, which disturbs the electron's velocity. In Einstein's theory of relativity, the mass, size and time scale of an object are not constant properties of the body alone, but dependant on the frame of reference of the observer. Thus new perceptions in quantum mechanics lead us to cross out the old word 'observer' and replace it by the new word 'partcipator' as we seem to be dealing with a participatory universe.[8]

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[6]Quoted in Rheinallt Nantlais Williams, *Faith, Facts, History, Science and How They Fit Together* (Wheaton: Tyndale House Publishers Inc., 1974), p.64.

[7]Marlin Books Kreider, "Identifying Einstein's Creative Force" in John Clover Monsma (ed.) *The Evidence* (Bombay: Gospel Literature Society, 1973), p.64.

[8]See Paulos Gregorios, "Science and Faith: Complementing or Contradictory?" in Roger L.Shinn (ed.) *Faith and Science in an Unjust World* (Geneva: WCC Publication, 1980), pp. 53-4.

Science has glorified the mechanistic view of atoms and organisms. This has profoundly revolutionized man's life on earth. Applied science has been deified and the full might of modern technology unleashed on humanity. It is true that the hidden forces of nature have been harnessed in the service of humanity, but man has not succeeded in keeping under check the results of this process. Thus technology which is "science exploited by man to the limits" has overpowered and enslaved humanity. This can be seen in the way we have allowed the earth's resources to be mercilessly plundered and exploited. The nuclear power plants have become extreme expressions of man's arrogance. "Growth in human wisdom has not been commensurate with the increase in scientific knowledge and technological power. The fear of universal destruction hangs over us like a dark cloud. Science has liberated man from much of the tyranny of the environment but has not freed him from the tyranny of his own nature.[9] The inadequacy of science as a discipline is clearly brought out by the fact that it does not within itself generate a moderating influence that is able to halt its relentless march to disaster.

Science holds the view that effective understanding of a complex system can be readily achieved by investigating the properties of its components as isolated parts. This is known as reductionism, which is the method of explaining the complex by the simple and the higher by the lower. "A typical reduction is as follows: What we call the mind is in reality a very complex set of nerve network called the brain. These fibres are made up of complex organic compounds. These organic compounds can be resolved into their original chemical elements. Ergo, the brain is nothing but a highly complicated arrangement of several of the basic chemical elements."[10] This method presumes that an understanding of man requires nothing but the knowledge of chemistry. Of course there are a number of chemical elements in man's body and several biochemical changes take place in him, but to claim that one has thereby given a complete account of man is thoroughly unjustifiable. The whole is definitely more than the summation of its components. Man's capacity for self-reflection and creativity, his search for beauty and truth, his concern for moral values and future life cannot be explained by all the sciences put together.

Interlinked with reductionism is the formidable problem raised by the fragmentation of knowledge. "Our age is the age of the specialist. Each one knows more and more about less and less. We concentrate on

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[9]S.Radhakrishnan, *Religion and Culture* (Hind Pocket Book, 1968), p.153.

[10]Bernard Ramm, *The Christian View of Science And Scripture* (London: The Paternoster Press, 1965), p.40.

some narrow field and forget the larger context in which we can see the meaning of our own specialism. Modern specialization has led to the fragmentation of knowledge."[11] The irony of this situation is that we have brilliant botanists, zoologists, chemists, but still we are on the brink of an ecological disaster. Millions of children die of starvation, malnutrition and disease, and science is not able to do much about it.

Some problem areas

One of the most vital issues over which there has been confrontation between science and faith was the origin of life. Science could explain the origin of life or presume to do so, having altogether dispensed with the creator. "Today the contemporary mind, formed under the impact of the practical and theoretical success of the sciences, assumes that the physical universe is explicable without reference to supernatural agencies; and furthermore that any credible religious faith must be compatible with this principle."[12] One of the theories of the origin of life supposes that life emerged through some fortuitous situation in some primeval pool of water. The passage from the inorganic to the organic was not sudden but through a series of ever-increasing complex combinations, with many borderline situations that would be half-chemical and half-living. Finally, protoplasm emerged that possessed the required properties to make it live. Modern scientific thought has been totally against any interpretation of nature by design or final causes. However, the question arises, whether even one cell of life could have emerged in any primeval pool of water unless the entire stage of the cosmos were set for it.[13] Indeed several scientists ascribe the emergence of life from this 'fortuitous' situation in the Universe to pure chance. But it is hard to believe that at one moment of time thousands of factors absolutely necessary for life, just turned out right so that life emerged. One must accept that the odds are simply too great, comparable, as Professor Conklin put it, "to the probability of the unabridged dictionary resulting from an explosion in a printing shop."[14] Another question still remains unanswered. How did the chemical and water originate, in the first place?

It seems to be far easier to believe that God created the Universe. However, unfortunately, the creationists seldom seek to give a reason for their faith in the light of the remarkable discoveries in science. Very few try to integrate their faith with facts that are thrown up by science. Worse

[11]S. Radhakrishnan, *op. cit.*, p.154.

[12]John Hick, *The Second Christianity* (London: SCM Press Ltd., 1983), p. 104.

[13]Bernard Ramm, *op.cit.*, p. 194.

[14]Edmund Carl Kornfeld "God — Alpha and Omega" in John Clover Monsma (ed.), *op. cit.*, p.174.

still, some even try to establish minute details as to how exactly creation took place — this smacks not only of ignorance but arrogance.

One often makes the common mistake of identifying science with 'scientism'.[15] This simply means that one must distinguish between the undisputed facts of science and the philosophical and theological interpretation of those facts by scientists. Evolutionism and creationism are philosophies. Neither can be touched by any fact or theory generated within the opposing philosophy. All scientisms oversimplify the scope of reliable knowledge and are characterized by the sweeping statements that are made. A typical example is Aldous Huxley's statement in a magazine article, "Modern science makes it impossible to believe in a personal God."[16]

Miracles have always proved stumbling blocks to the scientist. We are not considering the gimmicks that godmen exhibit as miracles to further their own ends, but rather occurrences that could have only taken place by divine intervention. The argument is that the uniformity, orderliness and predictability in nature negate the occurrence of the supernatural and contradict the universal laws that operate in the universe. The need for miracles seems to be inconsistent with God's nature and purpose. If the changing God, who knows the end from the beginning, created all things unhampered by any limitation, why then, should He 'interfere' with the working of the natural order?[17] The answer to this seems to be that the orderliness and predictability of nature are themselves pointers to the existence of a Designer or Architect. Naturally this Designer or Architect has every right to intervene in his Creation as and when He deems it necessary. Miracles are indicative of God's personal character and point to the fact that He is active in the Universe He created.

Harmony between Science and Faith

Religion and science have, for long, been considered opposed ways that lead to the truth. This is unfortunate. God cannot contradict His speech in Nature and in Scripture. If the Author of Nature is the Author of Scripture too then the two books of God must, of necessity, be compatible with each other. A faith that ignores or disregards the wonders of scientific technology in agriculture, medicine and communication is unworthy of its name. Similarly, if science seeks to accumulate all the facts and figures of this universe in its countless facets without allowing religion to give these data their purpose and meaning, then science is guilty of un-

[15]Rheinallt Nantlais Williams, *op.cit.*, p. 59.

[16]*Ibid.*

[17]M.H.Cressey, 'Miracles' in J.D. Douglas (ed.) *The New Bible Dictionary* (London: Inter-Varsity Press), p. 829.

forgivable ignorance. Thus it is certain that faith and science need each other and must come to terms with each other. They must work for new perceptions through respectful collaboration and positive criticism. The spirit of mutual respect preserves us from being anti-scientific or blindly dogmatic or religiously bigoted in our use of science. Also, scientific criticism will protect us from being gullible or credulous or superstitous in our faith.

One aspect that brings out the harmony that exists between science and faith is the fact that faith is not the exclusive domain of the religious-minded; it is that of science too. For example, very few scientists have actually measured the speed of light, but it is universally accepted as a known constant. Much knowledge is accepted by faith — not blind faith but faith which allows itself to be tested at each point. "Science demands faith — faith in the senses, faith in instrumentation, faith in authority and faith in probability or chance."[18] The Oxford physicist, C.A. Coulson, argues that science has presuppositions — for example, that the world is lawful and intelligible; the scientist has an unprovable faith in the orderliness of the universe.[19] But it may be argued that science can check its beliefs by observation and experimentation whereas this would not be possible in the area of faith. This view is certainly erroneous because God invites people to test Him, to "taste and see that the Lord is good."[20] Thus the gulf between science and faith is narrowed here.

We must understand that both science and faith are human ways of relating ourselves to the reality around us. It is not only science that unveils the hidden structure of reality, but faith too. Both science and faith accept that the knowledge of reality is progressive and anticipate higher degrees of understanding with time.

Staggering advances in science have raised formidable problems having religious implications. The great strides made in agriculture, medicine and energy are an indication to many that science would usher mankind into a new era of peace and prosperity. "But there are many thoughtful people who warn us that science is not to be worshipped uncritically as a benevolent goddess holding in her hand the key to a golden future; they remind us that the same science which gives us penicillin and radiotherapy gives us also atom bombs and the means of waging bacteriological warfare. It is the use which men will make of their scientific

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[18]Irwing William Knobloch, "Rank Materialism will Not Do," in John Clover (ed.), *op.cit.*, p.88.

[19]Quoted in Ian G.Barbour, *op. cit.*, p.127.

[20]*Malachi* 3: 10.

knowledge which will determine whether science will prove to be a blessing or a curse to mankind."[21]

Faith provides us with spiritual and ethical values that should guide and guard our application of science and technology. As the harsh realities of an exploding population confined to a finite planet with dwindling resources become clear to all, faith has to be seen as a link between science and the future. It is imperative that the developments in science should be tempered and conditioned by moral and religious values in a way they do not backfire on mankind.

It is the considered view of many scientists that the world is heading for large-scale starvation, destruction of vital resources and global environmental pollution. So man is confronted with the responsibility of making a deliberate transition to a just, participatory and sustainable global society. In such a society if science will serve to meet the basic physical needs of the people and sustain their environment faith will ensure a life of dignity and self-respect.

For discussion

1. Why can't we look upon science any more as an objective attempt to understand the world around us?

2. If science has to be seen as a participatory activity rather than as an objective one, how could it be related to faith?

3. On what grounds were science and faith thought of as discrete endeavours?

4. How does the author debunk the scientific method?

5. Could you identify a couple of facts of science (not mentioned by the author) which have been distorted by the method of scientism?

6. Assuming that reason and faith are not opposed to each other, don't you agree that there can be no matter of faith which is beyond rational scrutiny? If yes, how could we understand such mysteries as the suffering of the innocent, after-life, and others? If you disagree, aren't you arguing for compartmentalisation of both science and faith?

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[21]Alan Richardson, *Science, History and Faith* (London: Oxford University Press, 1950), p.21.

ADVERTISING ETHICS

Sarprasatha Joe

Every nation in the world uses vast resources for advertisement. India, for example, has spent in 1985, 400 crores of rupees, that is, about 0.2 percent of GNP. India ranks 81st in the world, on the advertising front. It is, therefore, important to understand advertising and its social and ethical implications.

What is advertising? The word 'advertise' derives from two Latin words, *ad,* towards, *vertire,* to turn, and means "to turn towards." In fact, advertisement turns the attention and interest of the viewer to the message and the product. The American Marketing Association has defined it as "any paid form of nonpersonal presentation and promotion of ideas, goods and services by an identified sponsor."

Importance of advertising

Advertising has become a vital part of the business world. No advertising, no marketing. Gone are those days when goods were produced to specific orders placed by customers. But now, a large number of products and many brands of each product are first produced in large scale and then ways and means to sell them are found.

Again one has only to turn the leaves of any daily or magazine or turn on the radio or TV. There is no single medium that does not patronize advertisements. Producers and sellers compete to advertise their products or service through the media, because no producer can afford to ignore advertising and still hope to survive in the market.

Advertisement: an institution

In the modern society, advertisement has become an organised and systematized institution. It can be looked upon as an economic or social institution.

As an economic institution, it a) creates and maintains demand for product; b) motivates buyer's behaviour; c) demands high quality in products; d) demands better services to customers; e)increases productivity; f) cuts down costs (by increasing output, the overheads per unit are reduced and g) provides data for market survey and market research by being part of Market Information System.

As a social institution, a) it brings together the different social groups involved in the production sector of advertising: producers, distributors, sellers, government customers and the public. There are also others rendering collateral services: media technicians, artists, printers, research writers, commercial photographers, and others; b) builds new relationships between buyers and producers, between them and social organisations, the government and the environment; c) disseminates information by being a powerful communication system; d) effectively informs customers on the availability of a product, its components and the use of the product. For example, when you buy Horlicks, you learn about the components, results and the method of using it etc.; e) promotes health-consciousness in the society. Advertisement on the theme of polio, cancer, leprosy, AIDS are a few examples that create public awareness; and f) develops the 'consumer-eye' to view and judge the product.

As an economic and social institution, advertisement has a social responsibility which lies mainly in affirming or promoting values. It is not quite true, as some hold, that advertisement is value-free. In fact, it does influence the value system of the society whether we are aware of it or not. It forms new values, challenges or displaces the present values. It shapes up a culture by creating tastes and attitudes of people. Some insurance companies in America have shown how spiritual values could also be disseminated through advertisements.

If any society's quality, integrity and harmony depend on its ethical values, then the role of advertisement in affirming and fostering them will be significant. But is advertisement today constructive with regard to values? Instead of promoting values, it has only propagated disvalues. Let us now look at some of these in terms of consumers, manufacturers, social groups and also environment.

Consumer exploitation

The old saying "Ask what is said, and not who says it" may not be a good maxim, when applied to advertisements. The producer or advertiser usually hides behind his message and makes it appear totally objective. But to understand the message of an advertisement we must know who the seller is and why he says it; for, advertisers do not hesitate to misrepresent, exaggerate and claim unduly. For example, a recent advertisement for a two-wheeler claims that the vehicle can withstand even bumps of a heavy truck. But one can imagine the tragedy if a buyer believed it literally and tried it out!

An advertiser may exploit by abusing the confidence of a customer. The customer relies on the advertiser for valid information

about the products he would like to buy to satisfy his needs. But the advertiser projects such values as excellence, vitality, happiness, satisfaction and so on which form no part of the commodity. The consumer is likely to decide to buy the product not for its own sake but for the values promised by the advertisement. As a result, the consumer pays a heavy price and gives in. For example, in the case of an advertisement for a certain brand of cigarette, the product is exhibited in a colourful case which shows a young man and woman both clad in jeans. The message reads: "It is the spirit of *Freedom*." Thus the advertisement blends the product, youthfulness and freedom into one. What is the impact on an innocent young viewer? He may eventually be addicted to smoking, though he was originally fascinated by the value of freedom.

Consumers are often targets of unhealthy competition. Not only different products, but even many brands of the same product are advertised. Often we see half a dozen toilet soaps or milk products, one following the other on the TV screen, each making its own claims and counterclaims. As a result the consumer is only confused and he is unable to choose the right one.

Before choosing a product, a consumer may ask himself, "What purpose does the advertisement serve?" Instead of saying that a particular product is the best, should not the advertiser say why it is? If what he says is wrong, can it go unchallenged?

Cost escalation

Let us take some of the issues with regard to manufacturers. The first is cost escalation. In principle, advertising should reduce the cost per unit of goods. But it does not do so when there is unhealthy competition among advertisers. When advertising rates go up selling price also goes up. A buyer pays a high price which covers the cost of producing, cost of buying and also a margin of profit. For example, there is a clear price difference between the prices of private label brands and national brands of the same product. The difference is due to high advertising costs of the former. There are some manufacturers who spend exorbitant amounts on advertising. As a result, 15 to 20 percent of the cost of the product will turn out to be advertising cost.

The ethical question here is "Why cannot the manufacturers also bear atleast a part of the advertising cost?" It is after all they who profit. The manufacturers have a social responsibility to decide on the amount to be spent on advertising and the percentage of such costs to be passed on to the customers.

Alien advertising

When ethical principles do not guide advertising, advertisers themselves come to grief. Businessmen do not stop with the exploitation of consumers. There is also mutual exploitation when an advertisement launched by a company is manipulated cleverly and benefited by another. This is known as "alien advertising". It is possible to take undue advantage when there are common attributes between two products/producers. Some of the advertising techniques such as "guess advertising" or "shock treatment advertising"encourage alien advertising. If such practices go unchecked for too long they will result in cutthroat competition. Let alone the protection of consumers, it is for their own good, that the businessmen should exercise self-restraint and safeguard ethical values.

The big advertisers

There is another related problem of small-scale business units. Just because a producer has vast resources at his disposal, he cannot spend enormous amount on advertisement. This may even force the small producer out of the market. Shouldn't there be a limit on the big companies regarding their budget for advertisements? It is not "who can" but "who should" that ought to be the criterion. It is in the national interest of an egalitarian society that small-scale producers must be encouraged and protected. They should have fair chance of capturing their market share.

Depletion of resources

Advertising has brought in a fascinating variety and very wide choice of consumer goods. The Indian market offered in 1981 as many as 260 brands of detergent soaps, 126 brands of hair oil, 104 brands of toothpaste, 61 brands of fans etc. In fact now any product has wide choice of brands, sizes, packages, flavours and what not. Advertising works on the principle of "product differentiation." An advertiser tries to convince the buyer that his brand is unique. But first of all, do we need such a variety? How far is the producer justified in producing two or more brands of the same product? Do not businessmen have a social responsibility to see what is good for the national economy as a whole? Can a poor country like ours afford to put on an air of affluence? Could we afford to allocate vast resources for manufacturing the same product, for the fulfillment of one specific need?

Consumerism

Adequate policies in the right direction will do a lot of good to the society. But at present what we see is that every advertiser tries to grab his

share of market with the ambition of making it the biggest. Few advertisements today stop with mere information. Most of them create needs where there were none. Needs which are artificial, prestigious and even harmful take control of buyers. Even poor people are forced to long for things that they can never afford. As a result, the society becomes a "consumer society" which is ever avaricious and never satisfied.

Social tension

Advertisements identify happiness, success and prosperity with some luxurious products which millions of our people can never dream of possessing. The consequences are social tensions and frustration which eventually have their backlash. In order to avoid this adverse effect, could the state restrict the advertisements only to selective classes or groups who can afford such products?

Generation gap

Advertisements are not without the overtones of pop culture, pot culture, jeans culture, and the bygone hippie culture. While the youth are vulnerable to all these, the elders hardly sympathise with these 'cultures.' The result is a widening generation gap. Instead of building bridges advertisements build only walls between generations.

Degradation of womanhood

Very often advertisements treat woman as if she were an object to be used, bought and sold. Such portrayal has impaired man-woman relationship at all levels of social life.

Again, instead of portraying the positive aspects of womanhood, advertisements highlight the negative ones. So, she is often a fashion-monger, a spendthrift or a glamorous goody-goody of easy virtues or a dependent who cannot be spoken of apart from her husband, or father-in-law. Instead of degrading womanhood advertisements could emphasise that a woman is intuitive; that she can face severe challenges with great patience; and that she complements man in all walks of life. The themes of woman's liberation, education, career and dignity could be brought to focus in advertisements.[1]

The most urgent measure is to condemn all advertisements that touch the borders of vulgarity. Some may argue that "It is not always so much what is in the advertisement as what the viewer brings to it." This is unacceptable; the advertiser cannot shift responsibility to the viewer. He

[1]Krishnamacharyulu, 'A Moral Philosophy for Marketing in India,' *Indian Journal of Marketing*, XI (10), 1981.

shouldn't say "The advertisement is clean, but only the viewer sees sex in it." Is that true? How often are advertisements suggestive and replete with sexual overtones!

Responsibility of the media and advertisers

The media have the responsibility to verify the claims made by the advertisements they project, and censor them if necessary.

The advertisers, more than others, should recognise their social responsibility. Maximisation of profit need not make them socially irresponsible or else that itself will ruin them in the long run. They must carefully select the message, medium and techniques of advertisements. They should also keep the long-term benefit and welfare of the customers in mind. Advertisement could be seen by them as an educative process and informative source. They must also safeguard the social mores, social climate and the given value system.

The service rendered by the advertisers is indeed noteworthy. They bear a bulk of the cost of the press media. The press is the oldest and the cheapest medium. A reader needs to pay a meagre 15 percent of the cost. The remaining cost plus a margin of profit is offered by the advertisers to the press. At the same time the advertisers have an obligation to encourage the deserving publishers. Dailies and magazines which are truthful, honest and objective and those which contribute to the lifeline of the nation must be readily supported by advertisements. That too would be a service and responsibility of the advertisers.

Responsibility of the Government and public

If advertisement is not really ethical and responsible the blame is ours too; the country's as a whole. The Government cannot remain satisfied with a few legislations. In India, there is no dearth of laws. Some seek to control or regulate the interests of businessmen, and others to protect those of the consumers. But the malady is that the legislation remains only on paper. Paradoxically, some legislations themselves are used as advertisements. For example "Cigarette smoking is injurious to health" is often used tactfully to form part of the advertisement itself. In the recent months, the legal action taken on some business houses for violations are praiseworthy. But the situation does not warrant complacency. The state must come up with many more advertising programmes which will educate the public on such matters as family planning, conservation of energy, economizing on oil, environment, pollution, saving habits, health and civic consciousness.

The public also have a responsibility to curb advertisers when necessary. They must demand the improvement of advertisements and

claim damages when necessary. The least they can do is to take an advertisement for what it is worth. Any advertisement should not become a substitute for a buying decision but only kindle one's curiosity to learn and collect more data. But are consumers today judicious and conscientious? The consumer movements could be launched to organise collective appraisal of advertisements, products, services, and trade practices. The social organizations and action groups should also play a significant role.

Responsibility of the students and teachers

Students and teachers could act as bridges between the advertisers and the public. They could fulfil this role by means of critically analysing the advertisements and placing before the advertisers the need of the public and also by creating proper awareness about advertisements among the public. Research shows that humorous advertisements have a better recall capacity, greater brand-identity, and product-preference. It is the young who are naturally homour-prone; they love fun. So, they could design advertisements which are humorous and thereby make a positive contribution to the world of advertisement.

The Ten Commandments

In conclusion, it may be said that advertisement *is* value-oriented. It is time that advertisement, pruned of all unethical elements, became an active social agent by supporting and strengthening the value system, and by challenging other dehumanizing presumptions in our society. Here are the Ten Commandments for advertisers:

1. Thou shall not advertise products that are hazardous, but promote those that are beneficial.
2. Thou shall not persuade people to buy what they don't need, but strive to present what they need.
3. Thou shall not say that thou art always right, but allow the buyers to say that.
4. Thou shall not make "big noise," but simply present facts.
5. Thou shall not worry about models and motivators, but about what is said and how it is said.
6. Thou shall not be a 'profiteer' but a "cost sav(e)iour."
7. Thou shall not squeeze buyers with rising price but cease the price line.
8. Thou shall not neglect the rural market but build it up without minding loss.

9. Thou shall not squander natural resources while manufacturing products but conserve them for future.
10. Thou shall not pollute the social environment but beautify it.

Tasks

1. You may examine closely the text and illustration of a recent advertisement from an ethical perspective.
2. Design an advertisement for a product you use quite often with a view to promote a specific value.
3. In a small group deliberate on the statement, "Not only markets but nations have been built by advertisements."
4. Prepare a list of themes of products and evaluate the message they are meant to convey.

AIDS : A PLAGUING POSER

A. Ruckmani

The two major plagues[1] that the twentieth century has seen are syphilis, which broke out in the first decades and AIDS (Acquired Immune Deficiency Syndrome) in the eighth. Both these plagues are sexually transmitted diseases and have raised urgent questions pertaining to social values, public health and science.

If syphilis threatened the Victorian values of discipline, restraint and the social sanction of sex only within marriage, AIDS seems to do much the same in our own time.

In order to combat syphilis in the early years of this century, the public health schemes included educational programmes (which unashamedly stressed 'chastity' and not "safer sex" as we do now) alongside screening and testing for infection. Public health campaigns demanded that the red-light districts be closed. During World War I more than 30,000 prostitutes were jailed. However, this programme of closure and detention had no impact on the rate of the venereal disease which increased rapidly during the war. In our war against AIDS, what should be the thrust and objectives of our public health measures?

When Paul Ehrlich discovered Salvarsan, the drug for syphilis, it was widely believed that this magic drug will wipe out the epidemic. But it has not; even, its most potent successor, penicillin has not. Similarly, the most commonly used drug for AIDS, known as Zidovudine, does not effect complete cure.

In this chapter we may deal with this new disease AIDS in as elaborate a manner as may be necessary and highlight some of the inescapable problems it poses.

Acquired Immune Deficiency Syndrome

Meaning of the terms AIDS

Immunity is the capacity, a person has, to resist an infection. This resistance is acquired either before or after birth. That which is acquired before birth from the mother is called passive immunity. The resistance developed (after birth) naturally during an infection, due to the production of antibodies by one's own body cells, is called active immunity.

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[1]For more information, see *Confronting AIDS : Update 1988*(Washington D.C. : National Academy Press, 1988), pp.27-28.

The degree and nature of immunity varies from person to person and that is the reason why some people develop a particular disease while others do not. Due to some reason when immunity becomes deficient one becomes more susceptible to infectious disease and such a state is known as *immunodeficiency*. The disease that is acquired due to such defective immunity is called acquired immune deficiency disease.

Syndrome refers to a group of symptoms and signs which occur together and produce a pattern typical of a particular disease.

Causative organism

AIDS is caused by a virus known as Human Immunodeficiency Virus (HIV). The virus is so called because it totally undermines the immune system of the body that protects the individual from various diseases. In this sense, AIDS is a disease which subverts the basic disease resistance itself. A worser disease is unimaginable!

Origin of the virus[2]

The AIDS virus has been shown to infect a number of species of monkeys including the African green monkey from Zaire and other neighbouring African countries. The local residents of Zaire were known to kill the monkeys and eat their meat. The infected blood of the monkey could have come into contact with the human blood and this could have resulted in the mutation of the AIDS virus. In its mutated form, this virus could have become harmful to humans and infected them. It is also said that AIDS was brought to the USA by American homosexual holiday makers from their Haitian partners.

Incidence

First reported in 1981 in the USA, AIDS was described as an obscure disease of unknown etiology.[3] Within a matter of nine years it has spread throughout the world. To the so-called 'developing' nations, this disease is the greatest threat, for, it undermines the already weak and unstable economy they try hard to sustain.

Of the 158 countries or territories that report to the World Health Organisation (WHO), 133 had at least one case of AIDS as of March 1988. WHO estimates that there are at least 150,000 AIDS cases worldwide and between 5 to 10 million HIV-infected persons.[4]

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[2]This section draws from Ashok Garg's *Synopsis of AIDS* (New Delhi: Jaypee Brothers, 1986), p.3.

[3]ICMR (Indian Council of Medical Research) *Bulletin*, 19, 11 (Nov. 1989), 115; etiology means "the study or theory of the causation of any disease".

[4]*Confronting AIDS: Update 1988*, p.22

In India the first patient was reported in May 1986 by the National Institute of Virology, Pune, and the second a month later. Till 31 Oct. 1989, the number of AIDS patients reported was 40. Of these 12 were foreigners and 28 Indians. All the 28 Indians succumbed to the disease; 5 of these foreigners died in India and the rest were deported.[5]

Transmission

HIV could be transmitted through the following modes.[6]

1. Sexual contact

The commonest mode of transmission is sexual contact. Sexually active homosexuals (active and passive) and bisexual men are the easiest victims. The risk of infection is high when a person is promiscuous.

Homosexual/bisexual transmission occurs mostly in North America, European countries, Australia, New Zealand and some parts of South America. In these areas only a small percentage of heterosexual transmission occurs, but the percentage keeps increasing.

In some areas of Southern, Central and Eastern Africa, Carribean and India AIDS occurs mostly among heterosexuals.

In Eastern Europe, Eastern Mediterranean area, Asia, and most of the Pacific both heterosexual and homosexual transmissions occur. In these areas the persons who have travelled to the endemic areas brought with them the infection.

2. Intravenous (IV) drug abuse

In IV drug abusers HIV infection is transmitted through sharing of contaminated needles and syringes.

3. Transfusion of blood and blood products

If the donor of blood is an AIDS patient, (undetected) the recipient receives the infection through blood during transfusion. This appears to be quite an efficient route of transmission as a large dose of virus is donated to the recipient.

Haemophilia is a disease in which the patient is deficient in a blood coagulation factor called factor VIII. Such patients need frequent infusion of this factor, and during infusion, these patients acquire the infection.

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[5]ICMR Bulletin, 19, 11 (Nov. 1989), 120

[6]See *Confronting AIDS: Update* 1988, pp. 38-44.

The first patient of AIDS reported in India in May 1986 acquired the infection through blood transfusion given in the USA where the patient had gone for a coronary bypass surgery. The second patient reported a month later was a haemophiliac who also received (factor VIII) infusion in the USA.

4. Transmission from the mother to the foetus

If a woman who is infected becomes pregnant, the foetus acquires the infection through the placenta (transplacental transmission). The infection may be transmitted from the mother to the foetus during delivery or shortly after birth (perinatal[7] trasmission).

5. Through tissue transplants

Through transplants such as skin or organ transplant, the virus can be transmitted.

It is very important to note that AIDS is not reported to be transmitted through casual contact such as handshake, kissing, through air or fomites.[8] Infants with AIDS have not transmitted the disease to other members of the family. Doctors, nurses and health care workers have not been so far discovered to develop AIDS from caring for AIDS patients.

Entry of AIDS virus

The virus enters the body through body fluids such as semen and blood. After entry and multiplication in the body it will be present in lymph nodes, brain tissue, cerebrospinal fluid, tears, saliva and marrow.

Once the virus enters the body it remains there lifelong, and it will take about eight months to six years or even more before the disease manifests itself.

Clinical picture of AIDS

The clinical picture of AIDS can be varied as it involves almost all the systems of the body. The manifestations include fever, diarrhoea, abdominal pain, cough, breathing difficulty, memory loss, scabitic and fungal infections of the skin, tumours arising from the skin and so on. In the final stage of the disease, there is total loss of immunity and the patient dies invariably within two years after diagnosis.

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[7]During or shortly after delivery.

[8]Any substance other than food that may harbour and transmit infectious organisms.

Treatment

There is no specific treatment available now that could cure AIDS. The drug used at present is called Azothymidine (AZT) or Zidovudine. This drug suppresses the multiplication of the virus by competing with its DNA. But it cannot eliminate the virus from the body. This drug too has its own limitations; it is highly toxic and causes side effects which unless properly monitored could prove fatal. Yet another problem is an apparent resistance shown by the AIDS virus on a continuous use of AZT for 12-18 months. Therefore a new drug called Dideoxyinosine (ddl) is under trial.[9]

Having described the disease in some detail, we may now discuss the various problems it poses.

Patient-related issues

Most of the AIDS patients are given to deviant behaviour of one kind or another. Since such behaviour places them at risk of contracting the infection, they are identified as "high-risk group". Some of these kinds may be briefly dealt with.

AIDS occurs mostly among promiscuous groups of people. Promiscuity may, here, mean "not restricted to one sexual partner". While homosexual and bisexual promiscuity is largely responsible for HIV transmission in the West, heterosexual promiscuity is the major cause for it in India.

Most transmitters of AIDS in India are prostitutes. A survey reveals that one out of every twenty-two prostitutes in Bombay carries AIDS antibodies.[10] The first evidence of HIV infection in India was obtained when the sera of ten female prostitutes from a vigilance home in Madras were tested. Most of the seropositive patients detected in Tamil Nadu and Pondicherry were also prostitutes.[11]

Drug abusers are also among the transmitters of AIDS. However, drug addiction is not common in India as it is in the West.[12]

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[9] *CARC* (Centre for AIDS Research and Control) *Calling*, 2, 6 (Nov.-Dec.1989), 4
[10] *Indian Express*, 27 June 1989.
[11] *ICMR Bulletin* (Dec. 1987), III.
[12] *Ibid.*, 115.

Economic status[13]

In the West, the early victims of AIDS and HIV infection from the high-risk groups were urban, affluent people.

Although the disease seems to have originated among the affluent, it has now hit the poor also. In India, most victims who are prostitutes belong to the lower socio-economic group. They become higly susceptible due to their poverty and licentious habits. They are unable to maintain their general health due to want. They sell their blood for money and in the process spread the infection. Also common among them are such habits as smoking and drinking. Such a life-style forms the most suitable breeding ground for the disease.

As in the West, the affluent classes in India are also highly susceptible to this disease. Those who frequently go abroad, particularly to countries with high HIV prevalence, and those who have multiple sexual partners here or abroad, and those who abuse drugs may also be identified as high-risk groups. The life-style of the affluent high-risk group is usually modelled on the Western ways of life.

In short, in the Indian situation, while the poor high-risk group has to be understood in terms of its poverty, the affluent high-risk group in terms of westernization.

Psychological problem[14]

The psychiatric complications that AIDS engenders set it apart from virtually every other contemporary public health problem. Such complications have been recognised almost since the definition of this condition in 1981.

Since the virus affects the brain certain psychiatric disorders like dementia, delirium, schizophreniform psychosis, adjustment problems and various other emotional reactions (shock, fear, anxiety, depression, anger, frustration, guilt, obsession and so on) may manifest.

Again, a seropositive person may develop an AIDS-phobia, and become obsessed with the thought of death.

Issues relating to health care providers

Health care providers have been slow to give care to HIV- infected or AIDS patients. For one thing, there is the risk of infection. "Although the probability that a health care worker will acquire HIV infection on the

[13]This section is drawn from A.N. Malaviya, et.al., "The Clinical Management of AIDS,"*CARC Calling*, 2, 5 (Sept.- Oct.1989), 22.

[14]This section draws considerably from Jacob K. John's "Psychiatric Aspects of AIDS,"*CARC Calling* 2, 5 (Sept.-Oct. 1989), 17-19.

job is low, it is not zero."[15] Foolproof measures for infection control and greater vigilance in the handling of patients are required.

Health care workers continue to express great concern about infection and question their ethical obligation to treat HIV-infected patients. The Committee for the Oversight of AIDS Activities (formed in March 1987), created by the Institute of Medicine/National Academy of Sciences (IOM/NAS), USA, holds that "the health professions have a compact with society to treat patients with all forms of illness, including HIV infection and AIDS.To deny or compromise treatment to any patient on the grounds that a medical risk is posed to the provider breaks the fundamental trust between patient and caregiver."[16] However, health care personnel also have a right to know the occupational risks they face in caring for infected patients. Has not the provider the right to demand protection from occupational transmission?

Again, is it not possible for a seropositive caregiver to transmit the infection to a patient? This has raised the issue of whether or not health care personnel should be screened for HIV antibodies.[17]

Public health measures

Information base

Information is needed to determine the size of the population at greatest risk, particularly the number of heterosexually promiscuous persons, and also high-risk donors of blood.

More information is needed on the number of persons infected with HIV. Comprehensive seroepidemiologic surveys are necessary to ascertain the incidence of infection. These surveys may collect data pertaining to age, race, ethnicity, sex, geographic area and sexual preference of the infected persons. Districts and states should be encouraged to obtain and report data on incidence and prevalence to AIDS Task Force of Indian Council of Medical Research, New Delhi, and Centre for AIDS Research and Control, Bombay, for publication and follow-up action.

Governmental, educational and religious institutions may have to lend their support to the medical institutions in their efforts to study and prevent the epidemic.

Education

Education, in this context, must entail the transfer of knowledge which must induce and motivate people to adopt healthy, positive tradi-

[15] *Confronting AIDS: Update 1988*, p.97.
[16] *Ibid.*, p. 99.
[17] *Ibid.*, pp. 93-104.

tional (public and private) practices, and dissuade them from transmitting the disease to others.

Information and education campaigns on AIDS and HIV infection should be targeted to individuals and groups whose behaviour renders them susceptible to infection.

While the uninfected people should be taught as to how they could protect themselves, the infected have to be persuaded to safeguard their own health and to avoid infecting others.

The media may serve the society by educating the public on AIDS and HIV infection.

Health workers should be provided current information and they may be trained to diagnose, counsel and manage the infected persons. The traditional methods used to check the spread of disease include surveillance for epidemiologic purposes, screening of high-risk persons possibly exposed to infection, and isolation or quarantine of infected individuals.

Surveillance

> Surveillance involves both passive reporting and the active seeking of information, provides data on the prevalence, incidence, and distribution of diseases or infection in the population. Such data can be used to monitor the spread of a disease, to shed light on the mechanisms of transmission, to help in designing public health measures to prevent the spread of a disease, to evaluate the effectiveness of interventions and to guide planning for the provision of facilities.[18]

In India an AIDS Task Force was created by the Indian Council of Medical Research (ICMR) in 1985 which has initiated a National HIV Serosurveillance Programme in Oct. 1985.

Tests

Antibodies to HIV can be detected by several techniques, including enzyme-linked immunosorbent assays (ELISA), immuno-fluorescent assays and Western blot analysis.

In India, for final confirmation of the tests by means of Western blot, samples have to be sent to the USA. Making available this technique in India will certainly facilitate the testing process.

Blood banking

By screening for HIV infection the transmission of infection could

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[18] *Ibid.*, p.117.

be prevented. By routine blood test, the infected person could be identified, followed up and his contacts traced.

Other issues

Familial issues

The institution of family has already been disrupted by AIDS for it strikes young adults, the most productive group of society, who are between 25-45 years of age, the prime time for child bearing and rearing and not for dying, normally.

AIDS strikes not only young adults but also children. Pediatric AIDS is a growing problem, if not in India, at least in other parts of the world. It further saps families that may be already weakened as a result of parental drug abuse or HIV infection. As the mothers are usually patients themselves, they are unable to give adequate care to their children. When these children are of poor families, their plight is truly miserable. AIDS is the first ever disease to nip blossoms in the bud! Can we afford to lose our own future scientists, artists and leaders due to the promiscuous behaviour of a few?

In the United States, AIDS has begun to produce a generation of orphans. It is estimated that about 20,000 orphans will need either adoption or foster care by 1995. Individually, the orphaned child has not only to come to terms with the loss of the parent(s) but also has to face the stigma put on her/him. According to mental health experts, the death of the parent is the worst trauma any child can suffer. Such a child becomes very clinging and begins to feel that everyone will abandon her/him. Caring for AIDS orphans also poses problems. How candid could one be with the children? Providing psychologically and materially for these children may involve more difficulties than what we can envisage now.

AIDS has to be seen as a threat to all the noble traditions in human sexuality that man has ever known. So there is an urgent need to both expose promiscuity and to affirm such values in human sexuality as fidelity, restraint, dignity and chastity.

Social issues

The attitude of the society to the AIDS patient often causes concern. While it may be necessary to isolate or restrict the freedom of those victims who refuse to protect others from infection, it is quite needless to do so in the case of other nonproblematic patients.

There is no reason why the patients should lose their jobs, be disowned by their near and dear ones. If they have to die, can't they do so with dignity?

The World Health Organisation, however, asserts that the human rights of HIV-infected people as well as those of AIDS patients should be protected. It exhorts that discrimination and stigmatisation of the patients in matters of service and travel must be avoided.

Legal issues

Many HIV-infected persons do not volunteer to test for fear of stigmatisation. This problem can be tackled to a great extent by maintaining strict confidentiality in matters of testing and screening. To insist on confidentiality, strict laws and regulations to prohibit wilful or negligent unauthorized disclosure of HIV antibody test results may be necessary.

Stigmatisation and discrimination could also be combatted by means of antidiscriminatory laws which will assure them their due place in their own homes and workplaces.

Sometimes, the patients themselves could pose problems, particularly by means of attempting to spread the infection intentionally or by failing to or refusing to inform and protect their sexual partners.

There have been cases of HIV seropositive persons selling blood and body organs. A writer in *Times of India* (26 Oct. 1989) referred to this phenomenon as "transplanting AIDS". Appropriate legal measures may be adopted to control such behaviour.

Legal measures will be necessary not only to check immigrants from endemic areas for HIV infection and restrict their entry but also to regulate emigration to such places.

Media-related Issues

The fear of AIDS has swept our world more quickly than the virus itself. Much of this fear is due to ignorance. The media could play the significant role of an educator. In its task of education what stance should the media adopt? Can it afford to be neutral? Or should it act as the conscience of our times? This is a vital issue for its major target group must be the youth, at least in this case, for they are the ones that are most susceptible to this affliction. Won't the youth be misguided if the media adopted an ambivalent attitude to promiscuity and other aberrant practices?

Religious issues

Our attitude to this disease could be shaped to a large extent by religion. Could religion encourage people to look upon this disease as an expression of the wrath of God? Or, could it seek to affirm and support the medical community in its efforts to combat the disease? Are these two abovementioned attitudes— the one moral and the other scientific— incompatible with each other?

Again, how should the religious institutions look upon promiscuity? Can they legitimize homosexuality? Can a religious authority solemnize a homosexual marriage?

Economic issues

The AIDS epidemic is already becoming a financial burden. It involves personal medical care expenditures (hospital services, physician, inpatient and outpatient ancillary services, nursing home, home care, and so on) and nonpersonal expenditures (biomedical research, health education, compaigns, blood screening and testing and support services).

The drug, AZT is said to cost a patient upto 12,000 dollars a year; 250 dollars for ten days treatment. Certainly it is not within the means of most of the patients of the developing countries. Moreover, this drug is in extremely short supply.

Conclusion

We have only raised some urgent questions relating to the problem of AIDS. There could be many more which need thorough consideration. In conclusion we may say that although the most dreaded plague of our times, AIDS, probably, originated in an African country, it was imported into India from the USA. This disease is transmitted, primarily, sexually and the promiscuous persons become its easy victims. That being the case, the best preventive measure, besides checking promiscuity, will be strengthening the native noble tradition in human sexuality that has sustained our society until today.

For discussion

1. What reasons can you attribute to the increased incidence of AIDS in India, particularly in Tamilnadu? How could an academic institution express its concern over this menace?

2. What shall be our attitude to an AIDS patient? How does your vernacular literature foster your attitude?

3. What values in your own tradition can support a programme of conscientization to combat AIDS? Suggest some strategies (using audio-visual, skits and so on) to reaffirm these values.

AN ALTERNATIVE SOCIAL ORDER[1]

Nirmal Selvamony

This chapter proposes to describe *tiṇai*[2], an ancient social order of India, discuss some of the principles on which it was based and place it alongside a few other social orders with a view to considering it an alternative in our own times. The fact that it has sustained our people for thousands of years shows clearly how viable and recommendable a social order it is.

First mentioned in *Tolkāppiyam* (1000–600 BC)[3], the most ancient Tamil treatise now extant, *tiṇai* continued to be the bedrock of the life of the Tamils and all the systems which they evolved until the new order of caste forced it into pockets of obscurity. As Tolkāppiyar, the author of *Tolkāppiyam,* cites previous sources which speak of *tiṇai* it is evident that this order prevailed much earlier.

Indian and foreign scholars alike have looked upon *tiṇai* as a mere poetic convention and not as a relevant social order. But the preface of *Tolkāppiyam* states that the text could be interpreted at two levels: the aesthetic *(ceyyuḷ)* and the sociological *(vaḻakku)* and therefore *tiṇai* may be looked upon not only as a poetic convention but also as a social order. Moreover, such interpretation is plausible because the edifice of art *(ceyyuḷ)*is raised on the foundation of real life *(vaḻakku)*.

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[1]A revised version of a paper entitled, "Sources of Indian Values" read at the Workshop on Value Education, 15-22 June, 1987, Danishpet, Salem, Tamil Nadu.

[2]*Tiṇai* derives from the basic root *iṇ*, to join (cf.*iṇai*, unite; *iṇaikku*, to unite);*ṛ* + *iṇ* — *tiṇ*, to press together, firm; *iṇai–tiṇai*, that which is closely pressed together, conglomeration, a region where people and nature coexist, firmness,firm conduct. The central principle of Tamil etymology, in general, is what the present writer may call "consonantal prothesis". Indeed, all Tamil words could be explained adequately if this principle were used. According to this principle, all Tamil words are ultimately traceable to vocalic roots, as Rev. S. Gnana Prakasar showed. In all the etymological explanations provided here, this principle will be consistently adopted. However, for root meanings the present author has relied on Rev. S. Gnana Prakasar, *An Etymological And Comparative Lexicon of the Tamil Language* (Chunnakam, 1938).

[3]Ilakkuvaṉār, *Tolkāppiyam in English* (Madurai: Kuṟaḷ Neṟi Publishing House, 1963), p.9.

***Tiṇai:* definition**

Tiṇai refers to a kind of social order which is intrinsically bound to a specific natural environment.

The ancient Tamils divided the entire world into five major habitable regions: the mountains, the grasslands and scrub jungles, the riverine plains and the seacoast. They also conceived of a corresponding indigenous human society which could be sustained by each such region.[4]

***Tiṇai* and biome**

Tiṇai could be profitably compared with the modern notion of biome. A biome is a natural community with its distinct flora and fauna. Modern botanists have identified five such biomes on the earth: a) the tundra and high mountains, b) forests, c)grasslands, d)deserts and e)acquatic regions.[5]

The major difference between *tiṇai* and biome is that while the former includes people in its system, the latter does not. Otherwise the biome follows quite closely on the heels of *tiṇai*.

***Tiṇai:* kinds**

There are five major kinds of *tiṇai* : the montane *(kuṟiñci)*, the pastoral *(mullai)*, the desertic *(pālai)*, the riverine *(marutam)* and the littoral *(neytal)* social orders. Now we may take up each and enumerate its natural and cultural features.

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[4] *Tolkāppiyam* III.1.1.

[5] *The World Book Encyclopedia,* vol.15 (Chicago and other places: World Book-Childcraft International, Inc., 1981), p.478.

Montane social order

Natural features

	Land	Flora	Bird	Animal	Food	People
Present Tamil Nadu	mountain; mountainous areas Nilgris, Anaimalais (include Palani, Cardamom hills, etc.) Tamilnad Hills (Javadis, Shevaroys, etc.)	*Strobilanthes kunthianus*; teak; sandalwood	peafowl; parrot; grey jungle fowl; Indian greathorned owl	elephant; tiger; boar; bear	wild rice; millet; bamboo rice	mountain dwellers (*kuṟavar, puṉavar, iṟavular*)

Cultural features

	Settlement	Family	Polity (leader)	Economy (occupation)	Communication	Music	Religion
	kuṟiñci; mountain cave; *mūṉṟiṟ*	man (*kiḻavaṉ*): *kuṟavaṉ*; woman (*kiḻatti*): *kuṟatti*	*veṟpaṉ*; *poruppaṉ*; *cilampaṉ*; *malaik-kiḻavaṉ*	primitive cultivation; digging tuber; collecting honey	through first language and appropriate drums which conveyed specific messages	*kuṟiñci-yāḻ*	Cēyōṉ
Modern equivalents						*naṭapai-ṟavi*	Murukaṉ; Civaṉ

Pastoral social order
Natural features

	Land	Flora	Bird	Animal	Food	People
Present Tamil Nadu	grazing/ pastoral land; scrub jungle gneissic low lands of Kerala; Coimbatore plateau; Pālāṟu/ Ponniyāṟu trough	*Jasminum auriculatum; Jasminum humile; Jasminum grandiflorum; Jasminum sambac*	skylark; bittern; grey quail; partridge; red spurfowl	sheep; cattle; Indian hare; deer	milk and milk products; *Paspalum scrobiculatum; Panicum miliare*	shepherds *(āyar, iṭaiyar, poṟuvar, kōvalar)*

Cultural features

	Settlement	Family	Polity (leader)	Economy (occupation)	Communication	Music	Religion
Modern equivalents	*pāṭi*	man: *āyaṉ*; woman: *āycci*; child	*aṇṇal; tōṉṟal; kāṉaka nāṭaṉ*	shepherding; dairying	through first language and appropriate drums which conveyed specific messages	*mullaiyāḻ* *arikāmpōṭi*	Māyōṉ Kaṇṇaṉ; Viṣṇu

Desertic social order
Natural features

	Land	Flora	Bird	Animal	Food	People
Present Tamil Nadu	desert Dry south east (Upper Vaikai, Ramnad, Tirunelveli, Madurai Districts)	*Wrightia tinctoria; Bassia longifolia;* Mahua	eagle; kite; hawk; pigeon; vulture; falcon	hound; Indian wild dog and other desert animals	meat of hunted animals; roots	warriors (*maṟavar*); hunters (*eyiṉar*, expert shots; *pulluvar*, fowlers and *vēṭar*, hunters)

Cultural features

	Settlement	Family	Polity (leader)	Economy (occupation)	Communication	Music	Religion
Present Tamil Nadu	*kuṟiṉcu*	man: *maṟavaṉ*; woman: *maṟatti*; child	*mīṭi*; *viṭalai*; *kāṭai*	hunting	through first language and appropriate drums	*aṟum-pālai*	Mother goddess (Koṟṟavai)
Modern equivalents						*caṅkarā-paraṇam*	Shakti

Riverine social order
Natural features

	Land	Flora	Bird	Animal	Food	People
Present Tamil Nadu	riverine plains; agricultural tracts alluvial and lateritic shelf of Kerala; Kaveri delta	*Lagerstroemia flos regina; Calamus rotang; Trewia nudiflora*	inland water fowls; pond heron; open bill stork; water hens; *jacanas;* snipe; grebe; king fisher	buffalo; Indian otter; pond tortoise; fresh water fishes	rice (various varieties)	farmers *(ulavar, kaḷamar, kaṉiṉār, toḻuvar, maḷḷar)*

Cultural features

	Settlement	Family	Polity (leader)	Economy (occupation)	Communication	Music	Religion
Modern equivalent	*ūr; pēr-ūr*	man: *ulavaṉ;* woman: *ulatti;* latter wife; child	*ūraṉ; nāḍuḍaiyaṉ*	harvesting; threshing and weeding	through first language and appropriate drums	*maruta yāḻ* *karakarap-piriyā*	Vēntaṉ Indra

Littoral social order

Natural features

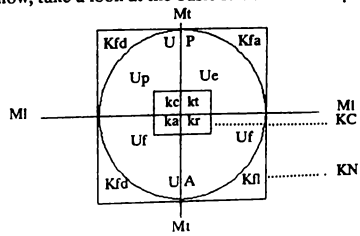
	Land	Flora	Bird	Animal	Food	People
Present Tamil Nadu	Sea coast Coasts of Kerala; coromandel coastal plain	*Nymphaea stellata; Colophyllum inophyllum;*	night heron; wild duck; wild geese; medium egret; large egret; sea gull; flamingo; black-necked stork; grey heron	fish; shark; crocodile	fish; salt	fisherfolk *(paratavar, kaṭalar, timilar)* navigators *(timilar, kalavar, paratavar)* salt makers *(umaṇar)*

Cultural features

	Settlement	Family	Polity (leader)	Economy (occupation)	Communication	Music	Religion
Modern equivalent	*pāṟkam. paṭṭiṇam*	man: *paratavaṉ;* woman: *paratti;* child	*cēṟppaṉ; turaivaṉ; kaṉkaṉ*	fishing; making salt; navigation; pearl fishing and maritime trade	through first language and appropriate drums	*vil̤arippaṉ* *tōṭi*	Varuṇaṉ

The structure of a *tiṇai* society

Having enumerated the various features of the five major *tiṇai*-s, we may now, take a look at the basic structure of a *tiṇai* society.



Legend

mutal

karu

uri

M1	*mutal*	: land
Mt	*mutal*	: time
KN	*karu*	: natural features
KC	*karu*	: cultural features
Kfa	*karu*	: fauna
Kfl	*karu*	: flora
Kfd	*karu*	: food
Kt	*karu*	: technology
Kc	*karu*	: communication
Ka	*karu*	: art
Kr	*karu*	: religion
UP	*uri*	: *puṟam*
UA	*uri*	: *akam*
Up	*uri*	: polity
Ue	*uri*	: economy
Uf	*uri*	: family

A *tiṇai* society consists of three components: *mutal, karu* and *uri*.

Mutal means "the first", 'base'.[6] It includes both land and time. These are known as *mutal* for they are the first principles, the bases of any human action.

Karu, as a noun, means, "that which generates" or "that which is generated."[7] It comprises several features of which some are natural and others cultural. Some of the important natural features are the flora and fauna. Among cultural features are technology, communication, art and religion. Natural features may also be classified under *karu* for two reasons: firstly, man is able to generate resources from nature for sustaining life; secondly, nature generates feelings and ideas in the mind of man. *Karu* also comprises cultural features as these are 'generated' or derived from nature. How could technology, communication and art be called *karu?* It may be agreed generally that thought is the basic matrix of all these cultural spheres. Now, *karu*

[6]From *u-* a deictic base which suggests being hidden in view; *ut*, push out (*utai*, to push out; *ùntu*, to push out; *uti*, to arise) *m+utu—mutu*, to rise up, to advance, that which has appeared prior in time (*muntu*, to rise up, to be prior in time)—*mutal*, that which has appeared first, the oldest, root, or base which is such.

[7]From *ar*, to join, to approach;(cf.*aruvu*, to approach; *arumpu*, to spring forth; *aruppam*, germ of a grain of paddy; *aruku*, to approach, to increase, to indicate one's intention); *k + aru*, to approach, to spring forth, to generate.

could mean thought or idea also (cf. *karuttu*, that which has been generated, notion, idea; from *karu*, to generate).[8] So, *karu* could include all systems of thought, methodological (logical), theoretical (scientific) and praxiological (technological). Further, religion is also said to be part of *karu*. One may wonder, how could religion be considered 'generated'? Religion, as part of *karu* refers only to the nontranscendental domain of images, rituals and ceremonies associated with religion. The Tamil word used to describe this domain is *teyvam*. So *karu* does not include the transcendental dimension.[9] But *teyvam*, as *karu*, is what man has 'generated' or formulated. So the ancient Tamils brought it under *karu*.

Uri means that which belongs to a *tiṇai*.[10] It incorporates within its domain all human actions which fall under two broad categories: *akam* and *puṟam*.[11] These two complement each other and so one cannot be isolated from the other. *Akam*, as *uri*, consists of such actions that are private and intimate and do not directly involve more than two persons. A third person or party can be involved only indirectly. Love is the most typical of *akam* situations and its proper sphere is the family, for, very intimate and deep personal relationships are forged and sustained therein. *Puṟam*, as *uri*, comprises actions that are public and may involve any number of persons. Combat is a typical *puṟam* situation. Even a duel falls in that category as the significance of the action is obvious to the public and the concerned parties. But in the case of an *akam* act, the meaning is comprehended only by the concerned persons. *Puṟam* comprises two important institutions: polity and economy.

Now, we may take up the three institutions, family, polity and economy and briefly deal with each.

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[8] From *ar*, to join, *aruttu*, meaning: *Tēvā*. 286:7 (→Skt.*artha*, meaning); *aruttam*, object of sense; *k* + *aruttu*—*karuttu*, meaning.

[9] The Tamil word which refers to the transcendental godhood is *katavuḷ*.

[10] From *ur*, to increase; *uri*, belonging, joined to, relating to.

[11] *Tolkāppiyam: Poruḷatikāram: Akattiṇai Iyal Uraivaḷam*, Muttuccaṇmukam and Tā. Vē. Virācāmi (eds.) (Madurai: Tamil Department, Madurai University, 1975), p.4.(Tamil)

Akam
Family[12]

The family of the *tiṇai* society was disposed within the larger context of settlement or habitat. It was enclosed within the concentric circles of corporate life. Outside, there was the *nāṭu* (region) within which there were the units of settlement variously known as *kuṟicci* in the montane, *pāṭi* in the pastoral, *kuṟumpu* in the arid, *ūr* in the riverine and *pākkam* in the littoral regions. Within these settlements were those who traced their lineage to a common ancestor and regarded one another relatives *(curram)*. These relatives were members of a clan or gen. Within the circle of relatives were the kins of the elementary family *(tamar, okkal, urōr* and *kēḷir)*. These persons were affinal kins (relatives by marriage). Still smaller circle was the elementary family which was the basic unit of the ancient Tamil society. The members of an elementary family, often, the mother, father, foster mother, and the child, apart from the dependents, lived in dwellings such as *il, maṉai, kuṭi, kurampai* and *iṟukkai*.

At home the lady (wife/mother) played the central role. The terms *illōḷ, illakkiḻatti, maṉaivi* and *maṉaiyōḷ* that refer to the lady of the house and the absense of masculine forms for these words amply bear this out.

Along with the mother, the foster mother also took upon her the task of raising the children. The foster mother admonished and disciplined the children until they were married off.

The chief duty of the father was to make his children complete persons *(cāṉṟōr)*,[13] learned and virtuous. He taught his children the skills required to pursue the occupation of their community.

Children were looked upon as treasures. A home devoid of children was not considered auspicious. Female babies were not discriminated against the male ones. Indeed, a poem speaks of how a montane family prayed to god to grant them a female baby.[14]

Marriage was not commercialised as it is today. In fact it was the boy who had to find wealth (for which sometimes he had to cross the ocean) to be given as price for the bride.

The *tiṇai* family was largely responsible for fostering the values of the society at large, particularly, love at home and renown *(pukal)* in the

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[12]This section on family draws considerably from S.Singaravelu's *Social Life of the Tamils* (Kuala Lumpur: Dept. of Indian Studies, University of Malaya, 1966), p.171.

[13]*Puṟanāṉūṟu* 312.

[14]*Aiṅkuṟunūṟu* 257.

society. It produced men and women of nobility, courage and intelligence.

Puṟam
Polity

The region of a *tiṇai* was ruled by a chieftain, known as *kiḻavaṉ* meaning 'claimant' or "one who has right".[15] He had the right to uphold the three ultimate values the Tamils cherished – virtue, wealth and well-being.[16] He affirmed these values by occupying the roles of the noble person, the chieftain, the steward and the father. As a noble person he sustained virtue; as a chieftain and steward he upheld justice, produced and shared wealth, and as father he provided happiness and security to his dependents.

In both his private and public lives, *kiḻavaṉ* was marked by greatness and resolve.[17] He was often referred to as *cāṉṟōṉ*[18] in that he was at once learned (from *cālpu,* education)[19], noble and also valorous. He was among the other elders in the court of law *(avai)* to dispense justice.[20] He was also an ideal steward or proprietor. He possessed wealth such as land, cattle and other property. But he possessed them only to share with the needy. At home, he eagerly

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[15]From some *caṅkam* poems *(Naṟṟiṇai* 29:9; *Puṟanāṉūṟu* 35:3; *Kaliṟṟokai* 21:10 we learn that *kiḻavaṉ* was empowered by the king to collect tax. See also *History of Tamil Nadu: Caṅkam Age (Political)* (Madras: Tamil Nadu Text Book Society, 1983), p.590. (Tamil)

[16]*aṟam, poruḷ* and *iṉpam.*

[17]*Tolkāppiyam* III, 3.7.

[18]*Akanāṉūṟu* 112:11; *Kuṟuntokai* 102; *Naṟṟiṇai* 327:1.

[19]*Eṭāṭi* 60:2; *Tamil Lexicon* III, p.1389.

[20]*Kaliṟṟokai* 139; *Puṟanāṉūṟu* 266:8–9.

shared his resources with his dependents and those who called on him. In public life also he was a benevolent donor whose patronage was frequently sought by bards and others. He was an ardent promoter of the well-being of both his own family and that of his chiefdom.

The good traditions of *tiṇai* polity continued until recently. The criteria for eligibility for the local leaders of the village panchayat until the Pallava and Cōḷa times were more or less the same as those that prevailed during the *caṅkam* period. The leadership "remained with those fit for it. Age, learning, and wealth, in addition to birth, furnished the most obvious qualifications for such leadership, official standing and public benefactions were other claims to the consideration and homage of the average man."[21]

Till about two centuries ago *tiṇai* chieftaincy continued alongside monarchy in the Tamil land.[22] Although monarchy had been established quite firmly from the *caṅkam* times in South India, it was certainly a later development. *Tiṇai* chieftaincy was the original, indigenous type of polity.[23]

Economy

To the classical Tamil mind, both economy and polity were inseparable and they denoted both these by a single word, *poruḷ*. They believed that the chief duty of the political leader besides maintaining justice was to produce and distribute wealth.[24] Such understanding of *poruḷ*, as recorded in *Tirukkuṛaḷ*[25] and the later didactic and minor literatures,[26] continued well into the medieval times.

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[21]K.A. Nilakanta Sastri, *The Cōḷas* (Madras: University of Madras, 1984), p. 508; a well-known inscription from Uttiramērūr, Ceṅkai-Aṇṇā District attributed to the Cōḷa rulers of 10th c.AD stipulates the following qualifications and disqualifications for candidates and voters for the *avai* (village assembly). The qualifications are: ownership of a piece of taxable land, possession of a house built on his own land, not more than 60 and not less than 30 years of age, moral and spiritual purity. The disqualifications are: service as member of the *vāriyam*-s (departments) during the last three years, previous record of corruption, violence and committing crimes. The relatives of those who have committed crimes, and those who have been expiated for their crimes were also not eligible for membership of *avai* for life. *Indian Express*, 23 Nov., 1989.

[22]See M.Manoharan, *Kilavan Cētupati* (Sivagangai: *Akaram*, 1983) (Tamil); some hold that it continued upto 14th c.AD: *History of Tamil Nadu: Caṅkam Age (Political)*, p.511.

[23]*History of Tamil Nadu: Caṅkam Age (Political)*, p.504.

[24]*Kuṛaḷ* 385, 388.

[25]See *Poruḷpāl*.

[26]*Tamil Lexicon* V, p.2936.

Wealth was considered essential for sustaining life and it was the duty of everyone to seek it through proper means. Indeed it was sought to be shared and not hoarded.

Each region had its appropriate technology to mobilise its resources. The specific natural resources available in a region fashioned the technology that emerged there. For example, if the agricultural riverine region required a technology which could perform the various agricultural operations like irrigation, ploughing and harvesting, the hard arid tracts required a totally different sort of technology to gather food such as tuber and roots and to hunt and snare wild game.

All *tiṇai* technologies will fall under two broad groups: the region-specific and the common ones. Alongside major technologies such as agriculture, dairying, and navigation which were region-specific, there were also such technologies as metallurgy, ceramics, textile, jewellery and medicine among others which were common to all the regions.[27]

Both kinds of technology had attained a high degree of refinement. The artisans skilled in these were known as *viṉaivalar*.[28] Let us take the case of iron and steel (metallurgy). In Tamil Nadu, the earliest evidence of iron and steel is from Āṭiccanallūr which dates back to 1000 BC. It continues, though in isolated pockets, till today.[29] The *tiṇai* societies knew how to identify and mine ore and also to smelt it and make implements. The traditional artisans, known as *kammiyar* or *kollar*, made excellent products of iron which were superior to those produced abroad by means of 'sophisticated' technology.[30] Although a minor technology in *tiṇai* societies, iron and steel industry supported agriculture, defence and medicine among other things.

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[27]These were known as *poruvinai* in Tamil, *Kuruntokai* 172:5.

[28]*Tolkāppiyam* III. 1.25.

[29]Gift Siromoney, "Ancient Iron-Smelting Site near Tambaram," *Madras Christian College Magazine*, 38, 1 (Nov. 1968), 41-44.

[30]Dharampal, *Indian Science and Technology in the Eighteenth Century*, (Hyderabad: Academy of Gandhian Studies, rpt.,1983),p.38.

Some principles of *tiṇai* societies

Let us consider some important underlying principles which sustained *tiṇai* societies.[31] They are: a) indigenousness, b) controlled diversity, c) traditionality, d) integration, e) smallness of scale and f) value-orientation.

a) Indigenousness

The social order of *tiṇai* is native to the Tamil land. There is no evidence yet to say that it has been imported from elsewhere. By virtue of being indigenous, it has enjoyed social acceptance, and proven sustainability. The inhabitants took a legitimate pride in being part of a *tiṇai* society which fostered solidarity and fellowship. This order has also sustained all the good things of our community for many centuries.

Further, all features of natural and human communities are indigenous. Not only flora and fauna, but cultural and social institutions are such. For example, in the riverine region, even as *cennel* (a kind of superior paddy) is native to it, so are the techniques of cultivating and harvesting it.

An indigenous environment is the ideal ground for the realisation of one's being – indeed one's self-identity. Through the collective memory (of the environment) a person is able to fully participate in the past, present and future of the environment. Although one may be able to adapt to alien surroundings, they do not become his own in the manner that his original environment does. But when compelled to do so, as in our own times, for reasons of employment and "better life", one is totally dislodged from one's foundations, and is forced to begin life afresh in alien environments. A modern urbanite today floats across cities and towns and is not in a position to comprehend the value of native relationship to environment.

b) Controlled diversity

In *tiṇai* one finds a reasonable variety of life forms and cultural features. But the variety or diversity is indigenous and therefore essential. Even cultural diversity is ultimately traceable to natural causes. Everything is designed, as if, to match the environment. For example,

[31] Also see the present author's "Back to *Tiṇai*," *Seventh International Tamil Conference Souvenir*, 1989, Mauritius (Madras: World Tamil Poets' Association, 1989), pp.129–130.

the occupations pursued in a region are direct consequences of its specific conditions.

The diversity is ultimately held in check in order to prevent wild proliferation and promiscuity. The task of monitoring diversity was usually entrusted with a body of noble men.[32]

Is it possible to control diversity if borrowal were encouraged? In *tiṇai* societies borrowal was not totally discouraged. When the inhabitants of a region interacted with those of another, borrowal was inevitable. But when they borrowed, they made sure that what was borrowed promoted the common interest and blended with the new environment. Such borrowal was known as *tiṇai mayakkam*.[33]

Borrowal could be explained by means of the guest-host relationship. Even as the guest could never become the host himself, the borrowed feature never became an indigene. Moreover, even as the guest was treated well and made to feel at home in the new environment as long as he stayed there, the borrowed feature was used well so that it could be returned intact to its native environment in the appropriate time.

c) Traditionality

Each *tiṇai* society was based on traditions which constituted conventions and practices approved by noble men and passed on from one generation to another. The traditions were not constrictive but helped bend the wills of individuals towards a common purpose and direction. As a result, traditional practices were marked not so much by uniformity as by universality. Standing instances are the *caṅkam* opuses. While all the poets conform to the basic conventions of poetry, each treats the same universal theme differently and uniquely.

Strongly rooted in his tradition, the ancient Tamil did not lose sight of a cosmopolitan, universal outlook. A bard of *Puṟanāṉūṟu* (193) claimed that he could look upon all towns as his own and all men as his kin. This unitive outlook negated neither his loyalty to his own town and men nor his traditions.

For the perpetuation of a tradition it is imperative that its transmitters willingly submit themselves to its authority with humility.[34] In fact, every traditional art or technology was learnt by the

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[32]*Tolkāppiyam* III.9.94; *Nannūl* 462

[33]*Ibid.*, III.1.14.

[34]Michael Polanyi, *Personal Knowledge* (Chicago: The University of Chicago Press, 1962), pp.53-4.

disciples at the foot of the masters. The disciple had to submit himself to the authority of the master during a period of apprenticeship. Such submission was necessary so that he could learn certain unspecifiable or nonverbalisable tacit aspects of the art or technology directly from his master. In the case of iron and steel, for example, the skill to produce the finest quality of steel (which resulted from the right amount of temperature, the proportion of flux mixed with the ore while smelting among other subtleties) was passed on from the master to the disciple by example. The traditional artisans of *tiṇai* pursued their technology with an enviable measure of commitment and devotion for generations.

Connoisseurship and proficiency were held dear and never compromised for any personal gain. In fact, the profession was looked upon as a moral obligation *(kaṭaṉ)*.[35] The bond which tied a blacksmith to his vocation did not lapse with the lifespan of an individual, but lasted for generations. So every blacksmith was expected to be equally committed to the high standards set by his predecessors in the past.

d) Integration

The *tiṇai* society was integrated at two levels. Within the society, different sections of people were integrated with each other. The human society itself, in turn, was integrated with nature. As mentioned earlier, each person was bound to the other by means of obligations and duties. Life was indeed a string of such duties; reciprocation and sharing. Life was not commercialised, competitive and exploitative as it is today.

We have already said that the uniqueness of *tiṇai* social order lay in its integration of nature and man. This resulted in a close harmony between the two. Every aspect of culture was closely bound to the natural environment. For example, even education was one such. It was basically an education of and through the environment. Students learnt different aspects of the environment and so their knowledge was intimate and firsthand. Such education was termed *cālpu* (literally, wholeness) or total education and only such education could have produced true scholars of the ilk of Tolkāppiyar, Kapilar and Tiruvaḷḷuvar, a tribe that has almost vanished now.

Through a life integrated with nature, one acquires firsthand knowledge of phenomena of the environment. This knowledge is essential particularly when these phenomena will have to be used as

[35] *Puranānūṟu* 312:3.

symbols. When the referents of symbols are part of the environment the user is so familiar with them that they become meaningful at several (emotive, cognitive and volitional) levels.

The technologies born of man-nature integration never degraded the environment as they do now. Pollution, if any, was minimal and the wastes were biodegradable and did not deteriorate the environment.

The love and respect they had for nature is obvious if we care to look at the way they had conserved its wealth for us. They have admirably demonstrated to posterity how best natural riches could be enjoyed without squandering them. How mindlessly have we ravaged in the name of development and modernisation what they have so generously bequeathed to us!

e) Smallness of scale

Although no conclusive demographic evidence of *tiṇai* society is available as yet,[36] one may reasonably presume that it was small. We are told that a single blacksmith supplied iron implements to seven villages.[37] Obviously, such villages were not very big.

Political, economic and familial institutions functioned effectively in a relatively small geographical area. A single chieftain with the help of an assembly of noble men was able to manage an entire village.

The technology of these societies was also small. As a result, the inhabitants themselves could fashion, use and maintain a particular technology. Such a technology was appropriate to the region and promoted self-sufficiency.

Tiṇai societies were nurseries of values. Values could be cherished mainly because these societies were small. Today, we are unable to check corruption and crimes chiefly because our society is sprawling and unwieldy.

In all aspects, *tiṇai* societies achieved a fulness of life thanks to their smallness of size.

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[36]K.A.Nilakanta Sastri expresses a similar idea in *op.cit.*, p.547. Today, an average Indian village consists of 100-200 household settlements. See *Express Magazine*, 3 June, 1990, p.2.

[37]*Kuruntokai* 172:5-6.

f) Value-orientation

Tiṇai societies were based on positive values. The three ultimate values they held dear as mentioned earlier were virtue, wealth and well-being.

Everything one did had to be virtuous. Even if vice brought wealth and fame they were to be shunned by all means. If one had to lay down his life for the sake of shunning evil he had to do so. Values were more precious than life itself. Morality, in the *tiṇai* societies ran like a fine thread through every little deed of the members. It was not overtly preached as it was later after the rise of Buddhism and Jainism.

Both in the private and public spheres of the *tiṇai* societies love prevailed. Another value which sustained *tiṇai* was contentment *(niṟai)*. One was required to restrain oneself. Greed was condemned. Man's wants were not unlimited, as we believe now, but very few indeed. *Tiṇai* would have been impossible had our ancients not contented themselves with small villages, small technologies and essential resources. Duty or obligation *(kaṭaṉ)* was an important value prized by *tiṇai* inhabitants. For example, although an artisan served at times villages other than his own his primary loyalty was to his own.[38]

***Tiṇai* and other social orders**

The social order that comes to our minds when we speak of the Indian society is caste. It is probably the most widely prevalent order today and it has not spared the Tamil society also. It found its way into the Tamil land during the *caṅkam* times and soon overthrew *tiṇai* in most parts.[39] In order to improve their status and prospects, even many tribes were willing to be sanskritized and absorbed into the caste mainstream.

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[38]*Puṟaṉāṉūṟu* 312; in his commentary on this poem Avvai Turaicāmi Piḷḷai observes that during the time of Kuḷōttuṅkaṉ (1070-1122 AD) a blacksmith was required to work for his own village and was forbidden to work for other villages.

[39]*History of Tamil Nadu: Caṅkam Age (Social)* (Madras: Tamil Nadu Text Book Society, 1983), pp.190-91 (Tamil); an elaborate account of caste and *tiṇai* may be found in the present author's "Sources of Indian Values," paper read at the Workshop on Value Education, 15-22 June, 1987, Danishpet, Salem, Tamil Nadu.

Enumerated below are some major differences between caste and *tiṇai*:

Caste	*Tiṇai*
First mentioned in the *Rig Veda*[40]	First mentioned in *Poruḷatikāram, Tolkāppiyam*
Hierarchical order	Not hierarchical, but egalitarian
Colour is a differentiating factor	
Occupations are determined by caste	Occupations are determined by the region and natural conditions
No mobility	Mobility *(tiṇai mayakkam)* is possible
Based on strict rules of purity/pollution	Based on love
Hereditary	No purity/pollution rules
Ritualistic	Not hereditary
Mutually dependent	Observed rituals, but not ritualistic
Women are not equal to men	Autonomous, but not insular
	Women are not discriminated against

Gandhian model

A more recent model of society envisaged by Gandhi approximates to *tiṇai* in ways more than one. His emphasis on self-rule *(swaraj)* in the domain of polity and self-reliance *(svadeshi)* in matters of economy may be viewed as a reaffirmation of *tiṇai* principles. The village *swaraj* which he visualised is a complete self-reliant republic ruled by the panchayat of five persons, annually elected by the adult villagers, male and female, who possessed minimum prescribed qualifications. These ideas, Gandhi derived from Indian traditions which could be ultimately traced to the *tiṇai* model. Certainly Gandhi's village *swaraj* was a remarkable improvement on the democracy we had.

The Gandhian principle of self-reliance is also diametrically opposed to the philosophy of the present day multinationals which control financial capital, technology, marketing and the trading patterns.[41]

Another principle which informs the Gandhian order is the welfare of all *(sarvodaya)*. We have already seen how the chief duty of the chieftain of a region was to seek the welfare of all. Most importantly, Gandhian order is based on sound values such as "truth force" *(satyagraha)*, nonviolence *(ahimsa)* and selfless work *(niskama*

[40]'India', *The World Book Encyclopedia*, vol.10, p.106.

[41]Somen Das, "A Critique of Modern Development from a Theological-Ethical Perspective," paper read at the Workshop on Value Education, 15-22 June, 1987, Danishpet, Salem, Tamil Nadu.

karma). *Tiṇai* order is also based on love and the three ultimate values already mentioned.

However, there is an important difference between the Gandhian model and *tiṇai*. There is no necessary integration between the natural and human communities in the Gandhian model as in *tiṇai*. That human social institutions derive from the natural environment is a unique affirmation of the ancient Tamils. Other subtle differences may also surface when the Gandhian concepts couched in Indo-Aryan terminology are interpreted in terms of the equivalent concepts found in the other major Indian traditions such as the Tibeto-Burmese and the Austro-Asiatic.

As alternatives, the Marxian and religious social orders are also suggested, sometimes, even imposed. These orders are not to be recommended for while we already have a sound indigenous order it is not necessary to seek one elsewhere. It is time we revived our own traditions before we turned to alien quarters.

Tiṇai today

Although *tiṇai* is not totally extinct, it is certainly an endangered species. Threatened by the growing trend of modernisation and urbanisation, it struggles hard to survive among some parts of rural India and the tribals. These villagers and tribals who possess this precious treasure, namely, *tiṇai*, will soon part with it for more glamorous pleasures that a city can offer them.

The urgent need of the hour is to save whatever we have. This task was, in some measure, undertaken by those scholars who surveyed the Indian society and recorded some of its features faithfully. Notable among such surveys are the ethnographic and anthropological studies that were published in the first decade of this century.[42] These data

[42]Some of these are T.K.Gopal Panikkar's *Malabar and its folk* (New Delhi: AES, rpt., 1983 [1900]); Edgar Thurston's *Castes and Tribes of South India* (Madras: Govt. Press, 1909); W.H.R.Rivers, *The Todas* (London: Macmillan & Co., 1906); P.T. Srinivasa Iyengar's *Pre-Aryan Tamil Culture*, (Madras, n.d., but before 1929); L.K.Anantakrishna Iyer, *The Cochin Tribes and Castes*, vol.I (Madras: Higginbotham & Co., London; Luzac & Co., 1909).

show that *tiṇai* communities such as *kuṟavar*, (montane region), *itaiyar* (pastoral region), *vēṭar*[43] (desertic region), and *paratavar* (littoral region) among others are found even today continuing the glorious traditions in their own ways.

Most of the cultural features of *karu* may also be found here and there throughout the country. For example, it has been demonstrated that originally the place names in Tamil Nadu were determined by the natural region of the *tiṇai*-s.[44] Again, today's village administration owes much to the *tiṇai* model. In the province of art, even as the devotional reciters known as *ōtuvār* and the troupes of artistes known as *periya mēḷam* have kept alive the music of the *tiṇai* societies, the troupe of artistes known as *cinna mēḷam* have preserved their dance till today.[45]

It has also been shown how the deities of *tiṇai* were synthesized with other dieties to create modern Hinduism.[46] Further research will help identify and revive the traditions of *tiṇai*.

In conclusion we may say that although *tiṇai* is as ancient as the Tamils themselves it is relevant even today. An enduring and proven social order, *tiṇai* could certainly order the present day society, wherever necessary, with due modifications, not only of the Tamils but

[43]One may find today a colony of *vēṭar* near M.E.S. Road, East Tambaram, Madras. These people are dark and sturdy and readily fit the descriptions of the hunters in *caṅkam* poems. Today these men pass for astrologers with bird cages in hand while their women carry a baton, like the *caṅkam akaval makaḷ* and accompany their menfolk and tell fortune by reading the palms. These people are said to be falconers who amused the king at Eṭṭaiyapuram, Tirunelvēli District until the abolition of privy purse. Indeed surprising it is to know that they have not quite forgotten the scorching arid tracts which their ancestors had negotiated and the profession they practised thousands of years ago.

[44]R.P. Sethu Pillai, *Tamilakam: Ūrum Pērum* (Paḷaniyappā Brothers rpt., 1976 [1946]).

[45]*Periya mēḷam*, big band comprising *nākacuram* and *tavil* players; *cinna meḷam* small band consisting of the female dancer, dancemaster and musical accompanyists. For an account of the development of the modern Bharata Natyam from the *caṅkam* dance tradition through the devadasi tradition, see Saskia Kersenboom-Story, *Nityasumangali* (Motilal Banarsidass, 1987). See also Rina Singha and Reginald Massey, *Indian Dances* (London: Faber and Faber, 1967), pp.17-61. That Carnatic music has developed from Tamil *tiṇai* music has been well established by Abraham Pantitar in his *Karuṇamirta cākaram* (Tanjore, 1917).

[46]Kamil Zvelebil, *Tirumurugan*, (Madras: International Institute for Tamil Studies, 1981).

also of the others. It will do so if we give precedence to the small over the big, the indigenous over foreign, tradition over novelty and ultimate values over current disvalues. But that calls for a change of heart, especially that of the powers that be. Perhaps they will. Then, we too like our forefathers will certainly live abundantly!

For Discussion

1. Do you know of any community that preserves the traditions of the *tiṇai* society? If you do, describe the traditions in some detail.

2. Do you think *tiṇai* is a viable alternative? If so what measures should we adopt to reorder our society on this model? What difficulties are we likely to face while doing so? If not, why?

3. What points about this social order seem particularly significant to you?

4. Do you think *tinai* is a more humane and just social order? Why?

APPENDIX I

Social Ethics: Course Content

Objectives

— To raise the level of social consciousness of the participants by exposing them to the real issues in social transformation in our country;

— To train the participants in integrated thinking of the multidimensional social reality and in communicating their understanding, and

— To equip the participants with the capacity to take a stand, as responsible and conscientious human beings, on contemporary social issues.

Syllabus

Third Semester (2 hours per week — 13 weeks)

1. Methodology for social analysis

2. Value education

   Content of value education — purpose of value education

3. Family

   The *oikos* — Indian womanhood — the value of sex — sexual perversion and AIDS as threats to the family — generation gap

4. Economy

   Priorities of Indian economy — population and economy — Appropriate Technology — work ethics — child labour — brain drain — de-development

5. Ecology

   Living in tune with Nature — pollution — the nuclear option — issues regarding alternative sources of energy

Fourth Semester (2 hours per week — 13 weeks)

6. Polity

   Students and politics — human rights — terrorism — modern warfare — communalism — national integration

7. Religion

   Religion and environment — Science and Faith — Secularism

8. Communication

   Advertising ethics — mass media ethics

9. Social Order

   Indian society — alternative social order

10. Project Report

Evaluation

The End of Semester Examination (ESE) and Continuous Assessment (CA) each carrying 50% marks will form the basis for grading the course in Social Ethics in each semester.

The ESE will be conducted by the Examinations Office.

During the third semester the CA will be on the basis of a seminar paper or an assignment. During the fourth semester it will be on the basis of a project report which should be submitted before the 31st of March. Each project will be done by not more than three students. The course teacher will assign and evaluate the project.

The passing minimum for Social Ethics course is 35% marks alloted to each ESE paper and 40% of the total marks in the CA and ESE put together.

Certification

The marks secured in Social Ethics in the third and the fourth semesters will be separately indicated in the marks statement. If the student has not completed the requirement in Social Ethics either in the third or the fourth semester, it will be indicated as NC (Not Completed) in her/his marks statement for that semester.

Attendance

Attendance at Social Ethics session will be counted for computing the statutory attendance score of students in the third and the fourth semesters.

APPENDIX II

Titles of Project Reports submitted by the undergraduates of the Madras Christian College (MCC), Tambaram, during 1985-1990.

Abortion: Is the society informed?
Advertisements and audience response.
Alcoholism: A growing malaise.
Alcoholism among men resident students on campus.
Arrack prohibition in Tamil Nadu.
A survey of the inmates of a home for the aged.
A survey on the opinion of married working women on employment and family life.
Attitudes towards abortion in a locality in Madras.
Attitudes towards coeducation.
Attitudes towards Social Ethics in MCC.
Awareness of AIDS.
Balakumaran's novel — its impact on youth.
Brain Drain.
Burden on school children.
Cartoon culture.
Casteism in cinema.
Child labour.
Child labour in hotels.
Child labour in MCC.
Cigarette smoking on college campus.
Cinema and politics.
Controversies concerning Doordarshan.
Credibility of Doordarshan.
Discrimination against women wage labourers at Tambaram.
Dowry system.
Drug addiction.
Drug addiction and rehabilitation.
Dwindling ecology of MCC.
Economic condition of the village Pallikkaranai.
Economic crisis in India.
Economic status of flower vendors.
Educational standard in slum areas.
Effect of culturals on students in MCC.
Election responses.
Employer-employee relationship at Heavy Vehicles Factory at Avadi.
Environment.
Ethical basis for India's interference in Sri Lankan politics.
Ethics through education.
Eve-teasing.
Fitness Fever.
Functions of Social Welfare Organisations.
Habits of college students — an analysis.
Habitual transformation of youth.
Handicapped and society.
Health and hygiene.
Help rendered by the Social Welfare Organisations for the poorest of the poor.
Hinduism.
Home for the Aged.
How Christian is MCC?
How do the residents use their time in MCC?
Hunger problem at the Foreshore Estate in Madras.
Impact of increase in population in India.
Impact of newspapers.
Impact of reviews on cinema viewers.
Influence of Western culture among resident students of MCC.
Intercaste marriages.
Issues of interreligious marriage.
Juvenile Crime — an evaluative ethical perspective.
Juvenile delinquency — a general analysis of its extent, causes, preventive and remedial measures.
Killer spot at Guindy.
Lok Sabha and Assembly elections — 1989.
Lorry drivers at and around Tambaram.
Maintenance of Chingleput Government Hospital.
Man and his war machine.
Marriage settlement at Narayanapuram.
Mental diseases, their treatment and reaction of society to the patients.
Modern technology and warfare.
Narikkuravar in the city of Madras.
On studying the problems of women.
Operation Blue Star.
Opinion of crews and commuters on Pallavan Transport Corporation.

Opinion on dowry.
Panchayat Raj programme.
Pattern of expenditure of students of MCC.
Physically handicapped students in MCC.
Pollution due to effluent from a chrome leather factory at Chromepet.
Population.
Press report on election forecast.
Primary education system.
Private clinics at Villivakkam.
Problems and career prospects of working women.
Problems in slums.
Problems of bus travel in Madras.
Problems of fishermen.
Problems of foreign students in Madras city.
Problems of fruit vendors at Tambaram.
Problems of potter community at Guduvancheri.
Problems of roads and traffic in the city of Madras.
Problems of social institutions — family and marriage.
Problems of tourists.
Problems of urban tenancy.
Problems of women teachers in coeducational schools.
Psychological discrepancies leading to emotional disturbance in a coeducational system.
Psychosocial problems of college students.
Psychosocial problems of girls.
Random survey to assess the awareness of students on present day politics.
Reactions of society to the rehabilitation of an ex-prisoner.
Rehabilitation of mess workers.
Religion: Is it necessary for the modern world?
Religious missionaries and social welfare.
Report on *Prasar Bharathi* Bill.
Reservation policy.
Role of religion and law in the status of women.
Salesmanship.
Salman Rushdie's *The Satanic Verses*.
Should death penalty be abolished or not?
Sikhs and Sikhism.
Slum dwellers in the city of Madras.
Slums in Madras.
Smoking and alcoholism among youngsters.
Smoking — an evil.
Social status of working women in rural areas.
Social values of television.
Socioeconomic problems of child labour — an integrated approach.
Sporting ethics and awareness.
Status of women and population growth in India.
Status of women in India.
Students' awareness of leprosy.
Student unrest.
Survey to ascertain youth reactions to youth magazines.
Tamil Nadu politics, 1989.
Tannery pollution.
The guilt of abortion — a public opinion.
The *Korava* tribe.
Types of government and social justice.
Unemployment as a social problem.
Unemployment — a critical analysis.
Voting pattern of the new voters (18-21 years) in the Chingleput and Madras districts.
Watching cinema.
Water pollution caused by tanneries.
Welfare schemes for prisoners: A type study on the Central Jail (Madras) and Vellore Jail (Vellore, N.Arcot).
Women students' opinion on coeducation.
Working women in the Nilgri Hills.
Youth in India today.
Youth response to parental authority.

Project Reports in Tamil

Dowry: A point of view.
Ethical ideas in didactic literature.
Hero worship and suicide.
In the context of reducing the voting age.
Political feelings of workers.
The problems of women in modern short stories.
The problems and solutions found in the Tamil magazine, *India Today*.
The problems of the visually handicapped students of MCC.
Quarry workers and Social Ethics.
Women's freedom: A point of view.

TRANSLITERATION KEY

VOWELS

Short		Long	
அ	a	ஆ	ā
இ	i	ஈ	ī
உ	u	ஊ	ū
எ	e	ஏ	ē
ஒ	o	ஓ	ō

ஐ	ai
ஔ	au

CONSONANTS

Hard		Soft		Medial	
க்	k	ங்	ṅ	ய்	y
ச்	c	ஞ்	ñ	ர்	r
ட்	ṭ	ண்	ṇ	ல்	l
த்	t	ந்	n	வ்	v
ப்	p	ம்	m	ழ்	ḷ
ற்	ṟ	ன்	ṉ	ள்	ḻ

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The basic questions we have to ask are : What kind of life do we want for ourselves ? Should we opt for an acquisitive and consumerist lifestyle inthe name of higher standard of living or should we regard this as biologically sickening, socially wasteful and spiritually degrading ?

S.N. Ghosh

So man is confronted with the responsibility of making a deliberate transition to a just, participatory and sustainable global society.

V.J. Philip

It [oikos] is a symbol of the new integration we need to forge in our own time as persons and as a society.

W.J. Everett

The aim of higher education is the harmonious development of the three Hs (Heart, Head and Hand) in a student

R. Kanagasabapathy