

CHAPTER V

DRAMA OF SCIENCE IN CONTEMPORARY INDIA :

THE BLOSSOMING OF APOLLO'S LAUREL BOUGH

5.1	Science Drama In Ancient India	209
5.2	Science Drama And Colonial India	213
5.3	Post-Independence Science Drama	218
5.4	The Blossoming of Apollo's Laurel Bough	244
	Notes	247

CHAPTER V

DRAMA OF SCIENCE IN CONTEMPORARY INDIA :

THE BLOSSOMING OF APOLLO'S LAUREL BOUGH

5.1 Science Drama In Ancient India

In understanding the significance of interculturalism for contemporary world, Indian drama plays a pivotal role. With its great, ancient theatre tradition, it is not surprising that it has given a new direction to the science theme as well.

Modern Indian science drama is primarily a product of Western impact on Indian society. In assessing Indian science-drama, plays of 'traditional', 'intermediary' and 'modern' theatre are analysed.¹

However, before analysing contemporary science-drama in India, it is very important for us to realize that the tradition of science and literary/dramatic expression of scientific ideas, finds its earliest expression in ancient India. The earliest written records of Indian drama are found in Vedic scripts. Records of scientific writings too occur around this time. A brief account of these Vedic documents will help us understand the power and vitality of the Vedic models. Considering that

this great model was available to contemporary Indian playwrights, it is surprising that they hardly took notice of this richesse.

As indicated earlier, the historical roots of Indian science-drama go back to ancient Vedic writing. The urge to understand and explain the cosmos is primordial. Vedic literature is an exquisite example of this urge. The Vedic view of Nature is imbued with deep sense of mysticism.² It's a tribute to the depth and range of Vedic perception of Nature that natural scientists have begun to notice the extraordinary parallel between these perceptions with concepts of modern science.³

For understanding an important facet of ancient Indian drama, the Vedic Nature - hymns are significant. In the words of Adya Rangacharya :

There is another view which traces the origin of the Indian theatre to the Vedic hymns. These poetic compositions are the earliest available literature of the Indo-Aryan people. The time of their composition goes back to more than a thousand years before Christ. Ordinarily, they are either descriptions of natural phenomena or invocations to the deified forces of Nature. But there are a few which lend themselves to dramatic representation and these are considered to be the nucleus of the Indian theatre.⁴

As elsewhere in this dissertation, information & inference, are derived not from primary but secondary sources. This makes the quality of "research" quite suspect.

211

It is noteworthy indeed, that like English drama, in Indian drama too, the first extant evidence of documented drama is related to man and Nature interaction.⁵ Like its English counterpart, in this Nature-related drama, Nature is humanized. For example, in hymn number 33 from the third Mandala of the Rig Veda, sage Vishwamitra conducts a dialogue with the rivers Vipash and Shutudri.

THE RIVERS : Fattening the land with this water of ours, we are flowing along the course laid out by God (Indra); we can neither tarry nor turn back. May we know what the sage desires that he praises us so?

VISHWAMITRA : I am the son of Kushika, I gather some plants; I praise you mightily seeking protection from you. Would you, for a moment and at my request, withhold the current of your waters?

THE RIVERS : Indra, the wielder of the thunderbolt, dug this course for us by removing all the obstacles; he is the god to (give us the) command, we are there only to carry it out.

VISHWAMITRA : Oh, Sisters, listen to my request. I have come from afar in my chariot and with a cart. Just bend down a little, and remain a little lower than the axle.

THE RIVERS : We heard you, oh Sage. You have come from afar in a chariot and with a cart. Here, we bend down, like a mother nursing her baby, like a maiden embracing her lover.⁶

X

Much of scientific writing of this period too, flows from this deep sense of pantheism and ecological empathy of the people. While mapping out the characteristics of the scientific literature of this period, A.B. Keith points out :

Owing to its inheritance of Vedic tradition, Sanskrit science greatly affected the Sūtra form of composition. The exact causes of this development in the Vedic literature must remain obscure; paucity of writing material, expense in procuring it, or similar causes can hardly be seriously adduced. Rather it may be ascribed to the character of the teaching of the schools, which was oral and always in a sense esoteric. ... a decisive step was taken when the Sūtras were supplemented by the composition of Bhāṣyas written in a new and interesting style. It is based on the principle of reproducing the dialogue between teacher and student, and, moreover, is often cast in the form of adducing a topic, then bringing forward a partial solution, or prima facie view (pūrvapakṣa), which is dealt with, corrected, and revised in the final opinion (siddhānta).⁷

Great scientists of this period, like Varahmihir and Aryabhata used the poetic, dialogic form to explain scientific concepts.⁸ One need not go into the details of their works right now, but it is necessary to reinterpret and develop these works as models for secular creative writing. 'The fifth Veda', in Bhart Muni's words, should play a pivotal role in re-examining the secular content of great Vedic poetry, drama and scientific treatises.⁹

*This section is redundant
only ^{one} play in passing has
been mentioned.*

5.2 Science Drama And Colonial India

Contemporary Indian science drama does not use these historical roots. It is predominantly a product of British colonization of India. In order to understand its nature and growth, a brief resume of cultural consequences of British colonization will be necessary.

British colonialism and modern science grew up simultaneously. Sixteenth century is a crucial landmark for both the activities.¹⁰ British forays into India started in 1500s, its rule was established in 1858. By that time, Britain was a highly industrialized, modern, scientifically strong country. The British inducted their language, literature, science and industry in India to establish their complete political and cultural domination. The magnitude of this domination can be gauged by Prof. A.R. Desai's eulogistic evaluation of British impact :

The advantages of the knowledge of English were almost immeasurable. It gave access to modern English literature, one of the richest, if not the richest, literatures in the world. It was the literature of the British nation, the first modern nation in history which vanquished and overthrew medievalism as early as the end of the eighteenth century. In the struggle against medievalism, it laid the foundation of modern democratic, scientific and rationalist culture which it further developed and enriched during its subsequent victorious existence. ... Further it developed a rich scientific and technological culture. It

mostly irrelevant

created modern natural sciences such as modern physics, chemistry, biology and agronomy. It also made a huge advance in medicine and engineering, and created a science of society, modern sociology.¹¹

It is not surprising to find that indigenous art forms took a backseat during this period. According to Rustom Bharucha, in urban Bengal, 'apart from the Jatra and other minor dramatic folk forms, there was no significant theatre. There were no playwrights, no playhouses, no professional actors..... At that time, the only theatre that existed in Bengal was exclusively British. There was the Calcutta Theatre (supported by Warren Hastings) with a repertoire of *The Beaux Strategem*, *The School For Scandal*, *Richard III* and *Hamlet* directed by a Mr. Massnick who had been sent to India ...'¹² The theatre was by the British for the British. Gradually aristocratic Indians were admitted too.

But soon enough, Indians began to redefine their threatened identity through wide variety of decolonizing cultural activities.¹³ Perhaps the British did not anticipate the impact reading of English literature would have on sensitive Indian minds. Both Elphinston and Trevelyan thought that it would reinforce the political and cultural supremacy of the colonizers, forgetting that it is the literature of freedom and calculated to inspire a spirit of nationalism and independence.¹⁴ Instead, the Indian response to the great literature and drama of Shakespeare, etc. can be termed as a decolonizing response.

For example, instead of treating Shakespearean creativity as exclusively British phenomenon, the plays were read with the desire to find meaning and beauty in one's own Indian ethos. Shakespeare was more of a creative challenge than a colonizing influence. According to Adya Rangacharya, as a reaction to British literature, Indians began to reinterpret their epics and classical drama.¹⁵ A new social consciousness was in its formative stages : a nationalist consciousness which was ready to fight against obscurantist practices in Indian society and to find its creative energies again. By 1830s Indian plays were written and performed for a new patriotic audience. As Rangacharya puts it, '... these attempts were aimed at evolving a form in which tradition and modernity could be harmoniously blended'.¹⁶ He goes on to assert :

Relevance? The war of Independence of 1857 was lost on the battle-field. But the victory was the peoples' who, losing the war, won a nation. If, as is said, the police of the British Raj gave an administrative unity to India, the Indian theatre without exaggeration, may be said to have forged national unity. How to explain, otherwise, a sudden spurt of theatre activities on similar lines all over India within almost a decade after 1857?¹⁷

Science? Modern pan-Indian drama was born as an integral part of nationalism. Enactment of Bhavabhuti's Uttara-Rama-Charita, Shakespeare's Julius Caesar; Sitaswayamavaram based on Dashavatara (yakshagana) give some idea about the range of this Indian theatre.

How is it a science play?

The first modern science play written in pre-independence India was an I.P.T.A. (Indian People's Theatre Association) production of 1943 - Yeh Amrit Hai (This Is Immortality)¹⁸ by K.A. Abbas. In this play Abbas depicts the plight of a scientist who discovers 'amrit' : a special chemical that would make man immortal. Various allegorical forces such as Beauty, John Bull, Religion, and Hitler try to gain control over this elixir.

By this time, Indian theatre had become militant. Anti-British, anti-Fascist activities had energized the Indian intelligentsia. There was ^agrowing tendency to confront Indian problems. Scientific rationalism was viewed as a liberating influence. That's why it is not at all surprising that science theme should figure prominently in IPTA productions. However, one would have expected more plays on this theme. Considering the extraordinary cultural pressure scientific learning had created in a highly religious society such as India, one would have expected stronger plays highlighting the ensuing conflicts. Also, despite all the positive gains of scientific learning, one can't ignore the fact that most of it was accessible through English, creating additional cognitive as well as identity problems.¹⁹ Instead of raising varied strands of science-related issues, the pre-independence Indian drama, highlighted the positive, rationalistic gains alone.

It is interesting to note that this trend is similar to the Western drama of post World War 1 phase spearheaded by stalwarts like Bertolt Brecht, who considered scientific world view as the epitome of freedom.²⁰ In the drama of pre-independence India, it is the positive aspect of scientific learning that is emphasized, since it could help solve problems of 'un-reason'.²¹ This seems to be an Asian phenomenon. Prof. A.J. Gunawardana in his seminal essay - 'From Ritual To Rationality, Notes On The Changing Asian Theatre', points out how scientific rationality is the credo of most contemporary Asian societies and theatres :

An ideal of 'rationality' is a fundamental characteristic of modernization, and today all over Asia there is a call for a 'rational, scientific approach' to the world. Rationality presents an attitude critical of the past and suggests the direction for change. The rational view of the world urged upon Asians is a fundamental criticism of indigenous culture. It claims that many of the received ways of thinking and behaving depend on non rational (magical, superstitious, religious) beliefs, which are obstacles to economic and social progress.²²

It is not quite clear as to how deeply values of rationality, objectivity, scientific analysis have been internalized in India. Yet, it is beyond doubt that the process of modernization is irreversible, and that, in India it has created a large literate middle-class and a vast illiterate proletariat. The effects are discernible in dramatic form and content of post-independence Indian drama.

5.3 Science Theme In Post-Independence India

A brief evaluation of what A.J. Gunwardana terms as contemporary 'traditional', 'intermediary' and 'modern' theatre, will enable us to see how indigeneous theatre forms have responded to scientific ideas.

Traditional theatre is ritualistic, it '... enacts myths, legends and folklore, expressing shared values and systems of belief'.²³ The author is not aware of any science-play that has been enacted or written in this genre. Yet, considering the metaphoric power of traditional theatre, one can't rule out the possibility of infusion of scientific themes in an indirect fashion. In this context John Arden's spirited essay on the 'Chhau Dancers of Purulia' is noteworthy. According to him :

... about a century ago the tribal Kurmi people were converted to Hinduism by decree of their chief - who no doubt wanted more of a part in 'the making of modern India'. Before this time the religion of these tribesmen had been animistic and very primitive. In order to establish the new religion in depth, the ruler had the traditional war and hunting dances modified so that they came to illustrate the traditional mythology of the Hindus ...²⁴

In the context of the utter poverty, and feudal subsistence of these great dancers, Arden bursts out :

... if I were a Marxist-Leninist rural agitator - such people are often to be found under the outward appearance of the local schoolmaster or stationmaster or even forest officer - I would seriously consider making use of the technical excellence of the Chhau dancers and deftly persuading the artists to vary the content into a more revolutionary channel. It is not as difficult as it sounds. The old tribal dances were not long since varied to suit Hindu purposes. But that variation was imposed upon the people from above. The new thing is to get the people to impose their own variation from inside.²⁵

In evaluating traditional forms, the element of social change is very crucial. If, and it is a crucial if, the illiterate people of the country are exposed to crucial notions of scientific awareness (being able to view their condition as subject to change : more information about health, hygiene; greater ability to comprehend forces of Nature, etc.) then the traditional, highly codified presentational forms can present new concerns, turning the 'ritualistic pattern of presentation of shared values and systems of belief' to presentation of shared doubts, questions, new information about the world.

The intermediary forms such as Jatra, Tamasha, Nautanki, etc. have done just that. They are much more modern in content, although their form is traditional, in that they are episodic and loosely structured. A.J. Gunwardana has accurately assessed their cultural impact :

Popular among the masses, these theatres have always been an excellent medium for social and political protest. Colonial Asia provides numerous examples of how theatre responded to social and political movements. Throughout the independence struggle, the intermediary theatre of India served as a powerful weapon for anti-British propaganda and was a unifying force, making the people aware of common causes...During the last two or three decades, however, this pattern has been significantly modified by the introduction from the outside of new, highly organized, predominantly radical, often Marxist political and social motives ... The Jatra of Bengal and the Tamasha of Maharashtra are popular intermediary theatres which have been enlisted by political parties and committed individuals for political ends.²⁶

Utpal Dutt's Surya Shikar²⁷ is precisely this kind of drama. Dutt is a committed, Marxist theatre director. In Surya Shikar he presents the conflict between Puranic world-view and the scientific Buddhist world-view. The following quote would give us some idea about the anti-establishment sentiment that Dutt wants to stir through this Jatra play. Samudragupta, the emperor is in conversation with the Buddhist scientist Kalhan. Shishkumar, the mayor is also present during this encounter.

SAMUDRA : God forbid, master, that I shall lay hands on the greatest scientist of Aryavarta.

KALHAN : Then give me back my daughter.

SAMUDRA : Of course I shall give her back, on condition that you prove to us that the earth is round.

(Laughter.)

KALHAN : I came prepared for just such a contingency. But is there anyone here learned enough to understand my exposition?

SHISHU : Be careful of what you say, monk, for the Emperor himself stands before you.

KALHAN : He is Emperor, but is he a scholar? Is he well-read? The only one here who could possibly comprehend is the Mahamahopadhyaya Basubandhu. But is he willing to understand?

BASU : Monk, either prove your fantastic theory, or admit you are a liar and an atheist.

KALHAN : If Your Majesty were to stand on the shore of the sea and watch a ship approach, what part of the ship would you first sight?

SAMUDRA : The mast, I suppose.

KALHAN : If the earth were flat, this would not happen. You would sight the whole ship at once. Why can you not see the sun at night, your majesty?

SAMUDRA : Because the sun sets.

KALHAN : Why does it set? If the earth were flat, there would be neither sunrise nor sunset. (calling) Sayan! (Enter pupils Sayan and Bibhu with globe and lamp.) Your Majesty, the earth resembles this ball. Suppose this lamp is the sun. Turn the globe, Sayan. Your Majesty, this is how day and

night are created - night in this half, day in this. The infinitesimal creature who lives on this sphere is called man. It is the earth which rotates - but the little creature thinks the sun rises and sets. The sun does not revolve round the earth; it is the earth that goes round the sun.

VIRUP : Every word blasphemes against the Puranas. Does not the Brahmand Purana describe a flat earth?

KALHAN : Yes.

VIRUP : Then your theory contradicts the Purana?

KALHAN : The Puranas represent the perception of an earlier age. Man's knowledge advances with time. (1.ii.9)

In his effort to pursue scientific investigation, Kalhan and his disciples, mainly Indrani, face persecution from the Hindu king. But Kalhan does not give up his scientific convictions. The following dialogue between Hayagreeva, the army general, (also an admirer of Indrani, the Buddhist scholar) and Kalhan illustrates this conflict well :

KALHAN : (calmly) Will that save Indrani? Will Indrani live if you kill her Guru? (Hayagreeva loosens his grip and staggers off.) Commander, science is illuminating the future course of Bharatavarsha. We are preserving for our future generations the wealth of truth. If Kalhan declares his ideas to be false,

I do not know how long the power of your ignorance and superstition will continue to rule. I can't betray the future. If the price of betrayal is the price I have to pay to get Indrani released, Indrani herself would dencounce her Guru.

HAYA : (shouts) You don't have a heart. Can't you see that sight? Indrani's body drips with blood and shakes with an inexpressible pain.

KALHAN : I don't see any need to tell you what I feel within my heart. But I'll never allow the banner of science to kiss the dust.

HAYA : (suddenly) Shishumar! (Shishumar enters with soldiers.) Baudhashramana Kalhan! I have orders to destroy these weapons and rebellious books of yours. Shishumar, do your duty. (The soldiers start wrecking the telescope, burning the books. Sayan and Bihhu try to resist but are beaten up.)

KALHAN : Commander, I plead with you in the name of future generations, don't burn those books. They contain the knowledge, the discoveries, the realizations of men. Commander, don't behave like a beast, don't destroy the treasury of ideas accumulated through centuries, don't cast your countrymen into darkness. (The soldiers hold Kalhan. The flames burn and books are thrown into the flames.)

Beasts! Only beasts can burn books. Those who try to burn books to suppress the voices of men are devils, rakshasas and barbarians.

HAYA : It's a lesson to you, you heartless Brahmin. This is how we shall stamp out your heartless, conscienceless material from our empire.

(Exit Hayagreeva with his soldiers. Kalhan tries to bring out manuscripts from the flames. Sayan and others hold him back.)

SAYAN : Acharyadeva, calm yourself.

KALHAN : Are they all gone? Is this all that remains of the research of half a century? A few specks of dust, some charred pieces of paper, splinters of glass? Can they burn science? Can they trample truth under their feet? Sayan, is nothing left?

SAYAN : Gurudeva, we will have everything again, Kalhan's successors will carry his work forward. They will begin again the quest for truth.

KALHAN : These ruins, these charred manuscripts, these splinters of glass, these are the witnesses. These witnesses of the barbarity perpetrated by a fiendishly ignorant Hindu empire will send a call into the future asking them to remove the veil of darkness and awaken an era of light and the eclipse of superstitions. It will be a world where

knowledge will not feel ashamed to show its face, where truth will not be imprisoned, and where science will not be tied to the wooden wheel and tortured to death. (1.iv.16)

It is quite difficult to assess the impact this kind of content would have on the gullible, illiterate audiences. Instead of making them think, Dutt tries to hypnotize them into revolutionary, scientific impulse to throw away the shackles of oppression.

Apart from these efforts by committed Marxist playwrights, a new kind of intermediary theatre has emerged in post-independence India. Practitioners of this 'special interest'²⁸ theatre, believe in the educational role of theatre. With great ideological zeal, they raise science-related issues in local languages, using the local aesthetic forms. These groups have mushroomed in every state. Most recent example of this trend is a Tamil Nadu group called Tamil Nadu Science Forum. It has undertaken state-wise science dissemination programme through local art forms such as the 'rukkuthu' and 'kolattam'. To quote a recent newsreport :

Emperor Ashoka, hero of the Kalinga war, thoughtfully surveys the scene of a nuclear holocaust. Two groups of people debate the pros and cons of deforestation as the employees of timber merchants are prevented by the other group from cutting down trees. A group of farmers who toil on the field reap a rich harvest of grains, while another group seeking the help of godmen to boost

the crop sadly learns that the godmen could give them 'sacred ash' or fruits but not grains. A man learns that it is no use to seek a remedy through magic in case of a snake-bite. One has to take medical help. These are scenes in street plays to be presented by the Tamil Science Forum (TNSF) throughout the state for 14 days during a 'science yatra'. The programme consists of folk dances, songs and skits in Tamil, carrying the message of science and its role in society. ... The programme would include puppet shows where the artists would use the medium of mime. 'The rukuthu and kolattam', the popular forms of folk arts of Tamil Nadu would be employed. ... The TNSF is the first major organisation in the state to popularise science through art and other means. There was a urgent need for the country to keep pace with the world-wide scientific and technological revolution, Dr. Sundararaman said. Scientific and technological awareness and a scientific temper among the people could act as catalysts for accelerating the process of social advancement in the country, he added. Among the TNSF's objectives are inquiring into the problems of science education in the state and its improvement, inquiring into and discussion of the relationship between science and society, between the natural and social sciences, taking up questions such as science policy and choice of technology.²⁹

Most outstanding among these groups is Kerala Sastra Sahitya Parishat (KSSP). The aim of this organization is to disseminate science. The success of this organization can be gauged by its voluntary membership and organization. To quote :

KSSP, today, has 5,000 active members in all the 12 districts of Kerala. There are 4 levels in the structural organization headed by a State level committee. Then there are 12 District level committees, followed by 34 Regional (Educational Districts) committees and finally 150 local units. These local units consist of minimum 11 members, who function in towns, villages, schools, libraries etc.³⁰

This organization has been using theatre-performance as an integral part of their science-education programme. Most of these performances are in Malayalam. They are written jointly by educated scientists and local artisans, farmers, labourers (with a flair for writing or reciting) who collaborate actively on the script and performance.

A brief discussion of their work, published by them in a brochure titled Bharat Vigyan Kala Morcha, Science Thru Art,³¹ will indicate the way this flourishing movement has used theatre to aid its broad educational aims. The education is aimed at the 'conscientization' of the masses. The term 'conscientization' refers to learning to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality.³² Considering the colonial association of scientific knowledge which is usually given in English, the use of Malayalam helps the non-literate audience to relate scientific concepts to their own lives. For the educated participants also the whole process facilitates a closer relationship with the scientific ideas. In other words the

scientific ideas become less of a superimposition, and more a matter of active exploration in a language which people think and emote in. Thereby they are able to judge the relevance of the ideas to their own experience. Their target audience is described in the following performance piece titled One Question :

Narrator : Why?

It's time to raise the question

Why? Why? Why?

Chorus : (One by one)

One question

One question

One question

One question, a counter question

Many questions, many many questions

Chorus : Who is the universal power?

Who is the creator of beauty?

Narrator : One and only one answer:

The toiling man

The man who turns the wheels of history

Chorus : Empires, Civilization

Science, History, Knowledge -

Who built up all these?

Narrator : One and only one answer

The toiling man

The man who turns the wheels of history. (p.2)

The science-based plays and poems are used before or after general lectures on the subject. The following newsreport captures the flavour of these performances -

The traditional ruse of the street gambler to fleece innocent passers-by has been used skillfully by the Kerala Sashtra Sahitya Parishad to acquaint the rural folk with science. The gambler has his henchmen who keep winning in the game of chance proffered by him in a crowded street. Some of those who crowd round to watch the "fun" fall prey to the deceit and lose their last paisa. Two teams of dedicated workers of the KSSP employed a similar trick day after day for five weeks, from October 2 to November 6, to attract crowds in street-corners in rural Kerala. The ruse used was singing songs and staging plays by the team members - scientists, engineers, teachers and other intellectuals. The motive to impart science through the media of all existing art forms in Kerala as to induce a social revolution. Mr. V.K.Sasidharan is the head of the electrical engineering department of a polytechnic at Palghat. Dr. Gopinathan Nair is a professor of chemistry. They were in two batches. They were the singers who collected the crowds. The themes environment protection, the fight against poverty, and social enlightenment with the aid of science and a scientific outlook. Their team-mates, mixing with the crowds, joined in the singing, giving it the appearance of a mass programme. This was followed by the staging of plays in the streets at other open places. An estimated one million people were thus "entertained" by science. At the end of each play, the KSSP members sold their science publications and the total take was more than Rs.4 lakhs. Not a bad bargain. One of the batches launched its programme in a Trivandrum village, gradually covering most villages of Trivandrum, Quilon, Alleppey, Kottayam, Idukki and Ernakulam districts. The other group started from Payyannur, in the northern-most Cannanore district, and staged street performances in scores of villages in

Cannanore, Wynad, Kozhikode, Malappuram and Palghat districts. The two groups converged on Trichur on the final day of the five-week programme. The street drama was the most important item on the programme, which, besides songs, included "ottanthullal" (dance) and other folk arts of Kerala.

Some of the conceptual poems such as $E = MC^{234}$ and The Atom³⁵ are meant for school-children and educated audiences with a base in science. Majority of the plays, such ^{as} Liberation³⁶ are meant for the general audience. Instead of conceptual discussion, it presents the power-politics of modern science. Like early medieval, Western drama (especially Redford's Wyt And Science)³⁷ it uses allegorical method to highlight their view that science is not being used fully for the benefit of the oppressed classes of our society. To quote from the play :

Today science is under bondage of the rich. Though science can solve the problems of the majority, today it is in the service of a minority. People have to liberate it . (1.36)

In this allegorical play, Science is presented to the audience by a character called The Lord who acts as a middleman between Science and the Rich and Poor economic groups. He uses the language of religious deification while presenting Science :

Lord : His Holiness Science, the protector of the world, has been kind enough to descend to us. Devotees can pay homage and get blessings. He has come to grant you your wishes. (1.37)

The Rich Man responds quickly to this invitation. He asks for an artificial heart just in case the present one fails, for the adventure of interplanetary travel. Lord allows Science to grant these wishes. As a contrast, however, when the Poor Man comes, wailing :

Save me; Oh save me, His Holiness Science, the protector of the World, living and non-living. Please bless me too, afflicted with unemployment, poverty and ill-health. (1.38)

Science is prevented by the Lord to help. To silence the poor, Lord commands Science to bring forth three Devils, who wear the masks of Peace, Trade and Bounty. The Poor Man, with his threatened survival immediately recognizes them as oppression, black market, and black money respectively.

In this allegory, drama is generated by 'unmasking' the recognizable forces of economic oppression. The Lord manages to use political cliches and present each of the masks to create dramatic tension. Eventually the Poor Man cannot endure falsehood anymore. They not only recognize the identities of the masks, they gather enough strength to free Science from their clutches.

(The three devils encircle POOR MAN. He prostrates before science.)

Poor : Please, don't kill me,

Please, don't make them kill me

Enough, Oh! Science! Please

Help us from destruction.

(Science begins to bless POOR. But LORD intervenes. The devils make a fierce dance. POOR falls down.)

Devils : We will eat the carcass, suck blood, will annihilate everybody (Repeats with increasing speed. POOR MAN musters all the strength he has and shouts)

Poor : Fattened on the marrow of the country

Here comes a monster

Come, ye all, brothers

Let us drive him away.

(From the audience two persons - themselves poor men - rush to the arena, join POOR, encircle one devil after another and drive them away.)

Poor : (To Devil 1) You are not peace, you are oppression.

(To Devil 2) You are not trade but black market.

(To Devil 3) You are not bounty but black money.

(Turning to LORD) You are the evil power which created these devils.

(All the three encircle him and overpower him. They untie the mouth and hands of Science, liberate him and dance with joy.)

X. Isn't such drama meant to serve a political purpose (of Marxist revolution) in which science is seen as an effective instrument of change?

233

Science : You have cut down the hands of the evil folk
Who did keep me under their bondage long
You who made me have been eating sorrow
Today, you have risen, together
From henceforth with you I shall
March ahead from success to success.
We are one, let us not quarrel
We shall move together forward.

Announcer : This is only a make belief. Science is not yet
liberated. It is still under bondage. It is up
to us to liberate it. (1.40-41)

Although this kind of drama presents problems somewhat
simplistically, but like in the drama of Utpal Dutt the aim is
to give moral and political strength to the poor people. It is
meant to invigorate the masses, in the case of KSSP it is
followed by actual dissemination of scientific knowledge. In
medieval period in the West, this kind of allegorical drama was
written by the clergy to educate the illiterate masses about new
ideas. As a dramatic method, it continues to be pleasurable and
powerful. As a means of 'conscientization' its success depends
upon the experiential framework of the audience. However, in
view of reports about the successful impact of this type of
drama, one feels that its success stems from the close proximity
of this drama with the survival needs of the people. The
physical and economic well-being of the poor audience depends on

x Any evidence of your having witnessed it?

. 234

the way science - the instrument of development is used for their benefit.

x || Perhaps it is not too far-fetched to say that in the context of abject poverty and deprivation of large majority of our people, this kind of drama revokes the survival needs, and participatory mould of early Nature-rituals. In performance it is powerful because the audience is with the theme of the play. Modern Science is viewed as a panacea because it undoubtedly can help Man use Nature more effectively with better technology. It can also improve people's understanding of health, hygiene, ^{politics} etc. Unlike the wishful prayers of Nature-rituals (mentioned by Jane Harrison)³⁸ however, these plays emphasize the comprehensibility of Nature.

This kind of intermediary theatre has taken similar shape in many poverty-ridden Latin American and African societies. David Werner lists plays of this educational mould in his book Helping Health Workers Learn - Way To Get People Thinking And Acting. He lists plays that are being staged in Latin America, Africa, Phillippines, India. All these plays are result-oriented. They give useful information to the audience so that their chances of physical and economic survival are better. In Werner's words :

Role playing, sociodramas, people's theater, and puppet shows are all forms of action-packed story telling by a group. Each can be used to explore problems or situations by acting them out. At best, they are an excellent learning process for both actors and watchers, based on participation and discovery. The difference between these dramatic forms is one of methods and subject: ... Health-related theater is a good way to bring people together, including many who do not go to meetings or health talks. Theater can communicate messages, ideas, or concerns in a way that holds people's attention and makes them think and act! Make-believe action on stage can lead to real action in the community.³⁹

It is important to take note of these efforts because they almost go back to the collective, action-oriented framework of rituals. The information they give, the images of conflict ridden people that they present will continue to hold liminal power till conditions of poverty, ignorance, utter degradation persist. Augusto Boal captures the liminal quality of this intermediary consciousness in his book Theatre Of The Oppressed, '... all must act, all must be protagonists in the necessary transformations of society' and 'The poetics of the oppressed is essentially the poetics of liberation : the spectator no longer delegates power to the characters either to think or to act in his place. The spectator frees himself, he thinks and acts for himself. Theatre is action. Perhaps this theatre is not revolutionary in itself; but have no doubts it is a rehearsal of revolution'.⁴⁰

Besides the 'intermediary theatre', voices of concern are found in 'modern' Indian theatre too. Unlike the strident, radical thrust of 'intermediary theatre' 'Modern drama' in India is softer and more pessimistic in tone. Its practitioners and audience are highly educated middle-class people. Gunwardana rightly says :

Relevance?

All the modern Asian theatres started as minority projects, drawing their participants from the new class of intellectuals and students created by modernization and the impact of the West. In spite of its intellectual origins, however, the modern theatre seems to have latent drives toward professionalism and commercialism. So far these goals have proved attainable only in cities with large middle-class populations. And, as in the West, the institutionalized modern theatre has given rise to innovative or 'new theatre' movements.⁴¹

Badal Sircar, the Bengali theatre practitioner is an important example of the chequered history of modern theatre in India. Sircar started writing plays in 1950s. Interestingly his first play Solution X deals with the magical potential of science. In the 60s Sircar wrote important plays like Evam Indrajit, Baaki Ithihas, Tringsha Shatabdi and Shesh Nei. This period of his creativity ends with Parey Kono Din - his only science-fiction play.⁴²

During this phase, Sircar explored the middle-class consciousness. As late as 1972 he mentioned to Richard Schechner that 'the city Indians have been brought up on the tradition of serious Western theatre ... of psychology, drama, the spoken word, the proscenium stage, the separate audience... I cannot reach into the Indian folk culture. We were taught to despise it as old-fashioned and reactionary.⁴³ Sircar's response is typical of the dilemma of modern educated Indians. On the one hand one is under the paradoxical grip of Western impact - it can colonize as well as liberate - and on the other hand, Indian traditional set-up poses problems of obscurantism.

Through his plays, Sircar eventually tries to seek an indigenous solution by evolving the concept of The Third Theatre - Theatre Of Synthesis As A Rural-Urban Link in the 70s. Its a remarkable and important pattern of growth. He analyses the need for the theatre of synthesis in these words :

In spite of the popularity of the traditional and folk theatres in the villages, the ideas and the themes treated remain mostly stagnant and sterile, unconnected with their own problems of emancipation - social, economic and cultural; whereas the city theatre deals with fine, advanced ideas for a sophisticated audience who would be stimulated mentally but will not or cannot act upon them.⁴⁴

Yet in the plays of the 60s, Sircar transcends the middle-class limitations by reiterating its narrow world-view.

Relevance?

Science-theme figures in a peripheral way in Sircar. Yet brief description of his plays will help us understand the way this important playwright has assessed the role of science and science education in the Indian context. Evam Indrajit⁴⁵ captures the conflicts of Indian youth very authentically.

As Satyadev Dubey says : 'With the performance of Sircar's Evam Indrajit in Bengali in Calcutta in September 1965, theatre practitioners all over India became aware of a major talent and a major play. The play provided for them the shock of recognition. It was about the Indian reality as they knew it; it was a theatrically effective and crystallized projection of all the prevalent attitudes, vague feelings and undefined frustrations gnawing at the hearts of the educated urban middle class'.⁴⁶

Indrajit marks the growth of directionless, post-independence urban youth. Indrajit undergoes the motions of education (which includes science-education too) without relating it to his experience at all. As the following scene from the play shows that despite a heavy doze of liberal education (with its emphasis on scientific content), this education is reduced to a meaningless ritual. It hardly enables Indrajit to come to grips with the problems of the self and society :

(Suddenly loud music drowns the voices. White, shadowless glare on the stage. The stage is empty. The music stops suddenly. A college bell rings. Indrajit comes in. His movements are those of a man much younger than thirty-five, though there is no special make-up on his face. He is followed by Amal, who looks serious as befits a Professor. Amal, Vimal and Kamal take on appropriate voices and gestures although there is a hint of puppet-show in their movements.)

AMAL : Roll Number Thirty-four!

INDRAJIT : Yes, Sir.

AMAL : Every body continues in its state of rest or of uniform motion in a straight line unless it is compelled by an external impressed force to change that state.

(The bell rings. Amal goes out. Indrajit stands up. Vimal enters.)

VIMAL : Roll Number Thirty-four!

INDRAJIT : Yes, Sir.

VIMAL : Poetry, in a general sense, may be defined to be 'the expression of imagination'.

(The bell again. Exit Vimal, Kamal enters.)

KAMAL : Roll Number Thirty-four!

INDRAJIT : Yes, Sir.

KAMAL : The fundamental elements of the essay are logical development, expressive language, lucidity of thought and a balanced combination of theory and facts.

(The bell. Exit Kamal.)

INDRAJIT : A balanced combination of theory and facts. A balanced combination of theory and facts. Expression of the imagination. Expression of the imagination. State of rest or of uniform motion. State of rest or of uniform motion. State of rest or of uniform motion. (1.7)

Indrajit presents the despair of a young man who has made compromises by not confronting his social situation squarely. Education does not sustain him, he hardly has the spiritual strength to change anything.

But Sircar, the playwright, does not stop at this paralytic level of consciousness. He places his adult, middle-class characters in the fabric of Indian problems of poverty and hunger and the international problems of wars and large scale injustices, particularly the problems caused by nuclear warfare. The science theme is placed as one of the crucial elements of contemporary history. Although in Solution X and Parey Din Kono, he seems to express his fascination for modern science and its inevitable contribution to contemporary society, its the problematic aspect of nuclear science that he has emphasized time and again in his 60s plays. This is in total contrast to the plays of intermediary theatre, which present the positive, educational aspect of modern science.

Brief analysis of Sircar's Calcutta quartet will indicate how the science theme has been woven into the indictment of middle-class consciousness. In Baaki Ithihas,⁴⁷ Sircar builds the contrast between the domestic tranquillity of an educated middle-class couple - Basanti and Sharadindu and the utter turmoil of History dramatized in the character of Sitanath. In the play, it is reported that Sitanath has committed suicide.

Basanti and Sharadindu begin to play a literary game in order to speculate about the reasons for Sitanath's suicide. Sircar presents these two versions. In the third act Sitanath intrudes the domestic framework to divulge the real reason for his suicide : 'the unbearable pain of facing history of oppression from the building of the Pyramids to more recent calamities like Auschwitz, Hiroshima and Vietnam'.

According to Rustom Bharucha, 'During the course of the confrontation between the two men, it becomes increasingly clear that Seetanath is the "private self" of Sharadindu that has been suppressed'.⁴⁸ Sitanath goads Sharadindu to examine this history and not to be oblivious to it because of his preoccupation with academic and domestic concerns. Sharadindu is afraid of facing History. As he puts it - "What can I do about it?" Sitanath answers :

You can't do anything. I couldn't do anything. Nobody can do anything. Oppressions, killings, riots, wars - all these will continue. The man who is satisfied with two meals a day will pierce another man with a bayonet. The scientist who cannot bear the pain of an animal will create a weapon to kill a million people. They are all men ... Like you. They have all tried to live on some meaning or the other that they have given to life.

Sitanath questions the narrow meaning assigned by Sharadindu to his life and his sense of responsibility towards life. In a

moment of intense drama Sitanath asks a Sisyphean question to Sharadindu - "Why have you not committed suicide?"

In Baaki Ithihas calamities caused by nuclear science are placed as one of the items of historical inventory of barbarous acts committed by mankind. The same scientific theme is handled more pointedly in Tringsha Shatabdi. In Sircar's words; as quoted in the interview titled 'Badal Sircar : Middle-Class Responsibilities', conducted by Samik Bandyopadhyaya :

In Nigeria I read Formula For Death : $E = MC^2$, and thought that this book should be translated; people had to be made aware of the gruesome implications of the Hiroshima experience. But I have never liked translating. In the mid-fifties I had served on a jury, and the idea of a courtroom drama had haunted me ever since. I conceived my organization of the Hiroshima facts in terms of a courtroom play. I wanted to emphasize the relevance of those facts to an average contemporary Bengali; that would explain the Bengali context.⁴⁹

The play recreates the Hiroshima experience in order to emphasize the guilt of not only the actual participants such as Einstein and other nuclear scientists, the airforce officer who dropped the atom bomb on Hiroshima but also every living adult. In Sircar's own words :

Tringsha Shatabdi moves from the question of guilt to that of responsibility, from facing guilt consciously to a recognition of responsibility, as evident in the very central act of sitting in judgement.⁵⁰

According to Rustom Bharucha, 'The play was revived, most significantly, when India exploded its first nuclear missile. When most of the politicians and artists of India (including many Marxists) applauded this "achievement", Sircar was probably one of the very few people in India who protested against the potential threat of nuclear power. Not surprisingly, the play has an even greater significance today when India has become increasingly vocal about developing nuclear power as a preventive against foreign aggression. Tringsha Satabdi is frequently performed by Satabdi for audiences who are gradually beginning to realize that the horror of Hiroshima is not so remote from their lives as they had imagined.'⁵¹

Although, both in Baaki Ithihas and Tringsha Shatabdi as well as his science-fiction play Parey Kono Din, Sircar has used science-related ideas in a peripheral manner, but they indicate the perceptions of the educated middle-class in India. Coupled with the science-plays of intermediary theatre they give us a complete picture of the way science and scientific problems are viewed by Indians in relation to their own Indian milieu. If intermediary theatre abounds in hope about the utility of scientific ideas to eradicate ignorance, disease and economic inequalities; modern theatre reflects on the need to use science with caution.

Apart from these original plays, Brecht's Life of Galileo, Kipphardt's In The Matter of J. Robert Oppenheimer have been staged countless times by both amateur and professional groups.

5.4 The Blossoming Of Apollo's Laurel Bough

Perhaps a cynical observer like V.S. Naipaul will look at science plays (like scientific activity) as acts of mimicry.

As he remarks in India : A Wounded Civilization :

... middle-class India, after the Gandhian upheaval, incapable of generating ideas and institutions of its own, needing constantly in the modern world to be inducted into the art, science and ideas of other civilizations, not always understanding the consequences.⁵²

As a counterpoint one would like to pose Richard Schechner's views on interculturalism. In his editorial on special Intercultural Performance issue of Drama Review, he says :

Learn to be intercultural? More like : unlearn what is blocking us from returning to the intercultural. For as far back as we can look in human history people have been deeply, continuously unashamedly intercultural. Borrowing is natural to our species. The swift adoption of Western technology by non-Western peoples is only a recent example of very ancient patterns of acculturation.⁵³

The Indian and Western plays on the science-theme cumulatively indicate the micro and macro problems that need to be understood and resolved by mankind. Instead of exulting

in the myopic arrogance of Naipaul, it is high time we acknowledge the need for an intercultural, humanistic view-point. The East and the West are locked together in their common destiny against the forces of annihilation. Both need to adopt ideas and institutions from each other that will aid healthy survival of the human species.

The science-drama in India - powerfully and persistently - poses the two alternatives natural science presents to mankind. It can help reduce misery or it can create more obdurate forms of misery. In India Apollo's laurel bough seems to have blossomed because in unmitigated words its theatre attempts to use scientific knowledge for the betterment of people's physical and economic condition. It is equally concerned about ecological issues, thereby attempting a more complete integration of natural science and society.

Science-drama has gained momentum as a highly significant cultural movement in India. It is a unique amalgam of hope about the developmental potential of natural science, and the revolutionary potential of drama for raising issues for public reflexivity. Indian drama of science shows that although the focus of any developmental programme is centred on the economic growth of the people, cultural issues play a vital role in aiding development. Ronald Segall put this idea eloquently in The Crisis of India :

... to see the problems of Indian development as solely economic and political, and not as social and psychological also, is to mistake the shape for the body. However dependent social and psychological attitudes and behaviour may be on economic and political conditions, they possess a creative faculty in their very dependence, like one half of a mating. They can help to change, or they can help to freeze, their economic and political context.⁵⁴

NOTES TO CHAPTER V

1. A.J. Gunwardana, 'From Ritual To Rationality : Notes on the Changing Asian Theatre', TDR, 15, No.3 (Spring 1971), pp. 53-62.
2. For details see B.N. Pandey, ed. 'Religions and Beliefs', A Book Of India : An Anthology Of Prose & Poetry From The Indian Sub-Continent (London : Collins, 1965), pp. 297-300.
3. See Fritzof Capra, The Tao of Physics : An Exploration of the Parallels Between Modern Physics & Eastern Mysticism (New York : Bantam Books, 1976).
4. Adya Rangacharya, 'The Origins', The Indian Theatre (New Delhi : National Book Trust, 1971), p.6.
5. See Chapter 2.2 for detailed discussion.
6. Rangacharya, Indian Theatre, pp. 6-7.
7. A.B. Keith, 'The Origin And Characteristics Of The Scientific Literature', A History Of Sanskrit Literature (1920, Indian rpt, Delhi : Oxford University Press, 1973), p.406.
8. Ibid, pp. 409,517,521.
9. Rangacharya, Indian Theatre, pp. 2-3. Unlike the four Vedas, Natyashastra - 'the fifth Veda' - was accessible to all castes. Hence it is a good vehicle for presentation of secular ideas. The term 'fifth Veda', in the context of this paragraph refers to drama in general.
10. Alfred North Whitehead, 'The Origins Of Modern Science', Science And The Modern World, (New York : The New American Library, 1948), p.1.

11. A.R. Desai, 'The Role Of Modern Education', Social Background of Indian Nationalism, (Bombay : Popular Prakashan, 1948), pp. 159-160.
12. Rustom Bharucha, 'Under The British Raj', Rehearsals of Revolution : The Political Theatre of Bengal, (Calcutta : Seagull Books, 1983), pp. 7-9.
13. For understanding the significance of cultural processes in the decolonization of a society, see Paulo Freire, Pedagogy Of The Oppressed (Harmondsworth : Penguin Books, 1972), pp. 90-95. 'Obviously conscientization does not stop at the level of mere subjective perception of a situation, but through action prepares men for the struggle against the obstacles to their humanization ... the dialogical nature of education begins with thematic investigation ... The anthropological concept of culture is one of these hinged themes. It clarifies the role of men in the world and with the world as transforming rather than adaptive beings ... One of these basic themes (and one which I consider central and indispensable) is the anthropological concept of culture. Whether men are peasants or urban workers, learning to read or enrolled in a post-literary programme, the starting point of their search to know more (in the instrumental meaning of the term) is the debate of the concept. As they discuss the world of culture, they express their level of awareness of reality, in which various themes are implicit ... the concept of culture, discussed imaginatively in all or most of its dimensions, can provide various aspects of an educational programme'.
14. Desai, Indian Nationalism, p.141. Also refer to discussion of Shakesperean productions by radical theatre groups in Bharucha, Rehearsals of Revolution, pp. 61-63.
15. Rangacharya, Indian Theatre, pp. 95-97.
16. Ibid, p.97.
17. Ibid, pp. 98-99.
18. Bharucha, Rehearsal of Revolution, p.41.

19. For understanding the colonial elements of the language problem, see T.B. Macaulay, 'The Introduction of English Education', in A Book of India, ed. B.N. Pandey, p.59. Meena Alexander's moving essay expresses the linguistic dilemma of Indians educated in English. See Meena Alexander, 'Exiled By A Dead Script', Contemporary Indian English Verse : An Evaluation, ed Chirantan Kulshrestha (New Delhi : Arnold : Heinemann, 1980), pp. 23-26.
20. See Chapter 3.3 for details. Also see Prof. Whiteheads comments in Modern World, p.3.
21. See the manifesto of Progressive Writer's Association, led by writers like Munshi Prem Chand, Sajjad Zaheer, Mulk Raj Anand. Quoted by Bharucha, Rehearsals of Revolution, p.37.
22. Gunwardana, 'Ritual To Rationality', p.52.
23. Ibid, p.53.
24. John Arden, 'The Chhau Dancers of Purulia', TDR, 15, No.3, (Spring 1971), p.70.
25. Ibid, p.74.
26. Gunwardana, 'Ritual To Rationality', p.56.
27. Utpal Dutt, 'Surya Shikar', Enact, No. 68-69, (Aug.-Sept. 1972), pp. 1-24. This edition has been used for subsequent references to this play.
28. See Richard Schechner, Performative Circumstances From The Avant-Garde To Ramlila, (Calcutta : Seagull Books, 1983), p.153. Also see Chapter 4.2 for detailed comments.
29. T.N. Forum's 'Science Yatra', Times of India, 3 Sept. 1986.
30. Kanchan Nijsure, 'Kerala Sastra Sahitya Parishad (KSSP)', The Challenges of Social Education in India, Diss. Indian Institute of Technology, 1980, pp. 45-46.

31. In Praise Of Learning : (Sastrakalajatha Scripts), (Trivandrum : Kerala Sastra Sahitya Parishad, 1985). Subsequent references are to this edition.
32. Paulo Freire, Pedagogy Of The Oppressed, p.15.
33. K.C. John, 'Using ruse to spread science', Times of India, 13, Nov. 1981.
34. 'In Praise Of Learning', p.4.
35. Ibid, p.5.
36. Ibid, pp. 36-41.
37. See Chapter 2.2 for details.
38. Jane Harrison, 'From Ritual To Art', Sociology of Literature And Drama : Selected Readings, eds, Elizabeth And Tom Burns (Harmondsworth : Penguin, 1973), pp. 323-325. Also see Chapter 1.1 for detailed discussion of Harrison's work.
39. David Werner and Bill Bower, 'Ways to get People Thinking and Acting, Village Theatre and Puppet Shows', Helping Health Workers Learn (Indian rpt, New Delhi : Voluntary Health Association of India, 1983), pp. 26-39, 26-39, 27-6, 1,12,14.
40. Augusto Boal, Theatre Of the Oppressed, trs. Charles A. and Maria McBride (New York : Urizen Books, 1979), pp.155-159.
41. Gunwardana, 'Ritual to Rationality', pp. 59-60.
42. See Samik Bandhopadhyaya, 'Badal Sircar : Middle-Class Responsibilities', Sangeet Natak, 22 (Oct.-Dec. 1971), pp. 5-10.
43. Suresh Awasthi, 'Richard Schechner Interviewed', Enact, No.61-62, (Jan.-Feb. 1972).



44. Badal Sircar, The Third Theatre - Theatre of Synthesis As A Rural-Urban Link, (Calcutta : Naba Grantha Kutir, 1978), pp. 2-3.
45. Badal Sircar, Evam Indrajit, trans. Girish Karnad (Calcutta : Oxford University Press, 1974). For subsequent references to the play, see this edition.
46. Ibid, p.vi.
47. Badal Sircar, Baaki Ithihas, quoted in Bharucha, Rehearsal of Revolution, pp. 138-139. See this book for all the quotations from the play.
48. Bharucha, Rehearsal of Revolution, p.139.
49. Bandopadhyaya, 'Interview', p.16.
50. Ibid, p.17.
51. Bharucha, Rehearsals of Revolution, pp. 140-141.
52. V.S. Naipaul : 'The House Of Grain', India : A Wounded Civilization (New York : Alfred A. Knopf, 1977), pp.96-97. Although this remark is made in the context of Naxalism, it has general ramifications, that need to be widely discussed.
53. Richard Schechner, 'Intercultural Performance', Drama Review, 26, No.2 (Summer 1982), p.31.
54. Ronald Segal, 'The Character of Custom', The Crisis of India (London : Jonathan Cape, 1965), p.122.