

T H E
INDIA
REPORT

April 1958

Charles and Ray Eames

901, Washington Boulevard, Venice
Los Angeles, USA

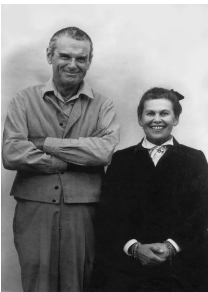


NATIONAL INSTITUTE OF DESIGN

Paldi Ahmedabad 380 007 India

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THE INDIA REPORT

The Government of India asked for recommendations on a programme of training in design that would serve as an aid to the small industries; and that would resist the present rapid deterioration in design and quality of consumer goods.

Charles Eames, American industrial designer and his wife and colleague Ray Eames, visited India for three months at the invitation of the Government, with the sponsorship of the Ford Foundation, to explore the problems of design and to make recommendations for a training programme.

The Eameses toured throughout India, making a careful study of the many centres of design, handicrafts and general manufacture. They talked with many persons, official and non-official, in the field of small and large industry, in design and architecture, and in education. As a result of their study and discussions, the following report emerged.

Foreword

You have the right to work but for the work's sake only; you have no right to the fruits of work. Desire for the fruits of work must never be your motive in working. Never give way to laziness, either.

Perform every action with your heart fixed on the Supreme Lord. Renounce attachment to the fruits. Be even-tempered in success and failures, for it is this evenness of temper which is meant by Yoga.

Work done with anxiety about results is far inferior to work done without such anxiety, in the calm of self-surrender.

Seek refuge in the knowledge of Brahman.

They who work selfishly for results are miserable.

Bhagavad Gita



We have been asked by the Government of India to recommend a program of training in the area of design which would serve as an aid to the small industries. We have been asked to state what India can do to resist the rapid deterioration of consumer goods within the country today.

In the light of the dramatic acceleration with which change is taking place in India and the seriousness of the basic problems involved, we recommend that without delay there be a sober investigation into those values and those qualities that Indians hold important to a good life, that there be a close scrutiny of those elements that go to make up a "Standard of Living". We recommend that those who make this investigation be prepared to follow it with a restudy of the problems of environment and shelter, to look upon the detailed problems of services and objects as though they were being attacked for the first time; to restate solutions to these problems in theory and in actual prototype; to explore the evolving symbols of India.

One suspects that much benefit would be gained from starting this search at the small village level.

In order to insure the validity of such investigation and such restatement, it will be necessary to bring together and bring to bear on the question – all the disciplines that have developed in our time – sociology, engineering, philosophy, architecture, economics, communications, physics, psychology, history, painting, anthropology... anything to restate the questions of familiar problems in a fresh clear way. The task of translating the values inherent in these disciplines to appropriate concrete details will be difficult, painful and priceless rewarding. It cannot start too soon. The growing speed of production and training cries out for some sober unit of informed concern sufficiently insulated to act as a steering device in terms of direction, quality and ultimate values.

We recommend an institute of design, research and service which would also be an advanced training medium. It would be connected with the Ministry of Commerce and Industry but it should retain enough autonomy to protect its prime objective from bureaucratic disintegration.

We recommend a Board of Governors drawn from the broad field of disciplines mentioned above – these must be receptive, involvable people concerned with the future of India and the image she presents to herself and to the world.

We will describe in some detail the functions and organisation of this proposed institute – the faculty, the trainees, the proposed projects, service aspects and the physical plant. First we will give a general

background of this concept – some form of which must be developed – as an immediate and practical necessity.

The reason for this urgency is quite apparent. The change India is undergoing is a change in *kind* not a change of degree. The medium that is producing this change is communication; not some influence of the West on the East. The phenomenon of communication is something that affects a world not a country.

The advanced complexities of communication were perhaps felt first in Europe, then West to America which was a fertile traditionless field. They then moved East and West gathering momentum and striking India with terrific impact – an impact that was made more violent because of India's own complex of isolation, barriers of language, deep-rooted tradition.

The decisions that are made in a tradition-oriented society are apt to be unconscious decisions – in that each situation or action automatically calls for a specified reaction. Behaviour patterns are pre-programmed, pre-set.

It is in this climate that handicrafts flourish – changes take place by degrees – there are moments of violence but the security is in the *status quo*.

The nature of a communication-oriented society is different by *kind* – not by degree. All decisions must be conscious decisions evaluating changing factors. In order to **even approach** the **quality** and **values** of a traditional society, a conscious effort must be made to relate every factor that might possibly have an effect. Security here lies in change and conscious selection and correction in relation to evolving needs. India stands to face the change with three great advantages :

First

She has a tradition and a philosophy familiar with the meaning of creative destruction.

Second

She need not make all the mistakes others have made in the transition.

Third

Her immediate problems are well defined : FOOD, SHELTER, DISTRIBUTION, POPULATION.

This last stated advantage is a great one. Such ever-present statements of need should block or counteract any self-conscious urge to be original. They should put consciousness of quality – selection of first things first – (investigation into what **are** the first things) on the basis of survival not caprice.

Of all the objects we have seen and admired during our visit to India, the Lota, that simple vessel of everyday use, stands out as perhaps the greatest, the most beautiful. The village women have a process which, with the use of tamarind and ash, each day turns this brass into gold.

But how would one go about designing a Lota? First one would have to shut out all preconceived ideas on the subject and then begin to consider factor after factor :

The optimum amount of liquid to be fetched, carried, poured and stored in a prescribed set of circumstances.

- ◆ The size and strength and gender of the hands (if hands) that would manipulate it.
- ◆ The way it is to be transported – head, hip, hand, basket or cart.
- ◆ The balance, the center of gravity, when empty, when full, its balance when rotated for pouring.
- ◆ The fluid dynamics of the problem not only when pouring but when filling and cleaning, and under the complicated motions of head carrying – slow and fast.
- ◆ Its sculpture as it fits the palm of the hand, the curve of the hip.
- ◆ Its sculpture as compliment to the rhythmic motion of walking or a static post at the well.
- ◆ The relation of opening to volume in terms of storage uses – and objects other than liquid.
- ◆ The size of the opening and inner contour in terms of cleaning.
- ◆ The texture inside and out in terms of cleaning and feeling.
- ◆ Heat transfer – can it be grasped if the liquid is hot ?
- ◆ How pleasant does it feel, eyes closed, eyes open ?
- ◆ How pleasant does it sound, when it strikes another vessel, is set down on ground or stone, empty or full – or being poured into?
- ◆ What is the possible material ?
- ◆ What is its cost in terms of working ?
- ◆ What is its cost in terms of ultimate service ?
- ◆ What kind of an investment does the material provide as product, as salvage ?

- ◆ How will the material affect the contents, etc., etc. ?
- ◆ How will it look as the sun reflects off its surface ?
- ◆ How does it feel to possess it, to sell it, to give it ?

Of course, no one man could have possibly designed the Lota. The number of combinations of factors to be considered gets to be astronomical – no one man designed the Lota but many men over many generations. Many individuals represented in their own way through something they may have added or may have removed or through some quality of which they were particularly aware.

The hope for and the reason for such an institute as we describe is that it will hasten the production of the “Lotas” of our time. By this we mean a hope that an attitude be generated that will appraise and solve the problems of our coming times with the same tremendous service, dignity and love that the Lota served its time.

The simplest problem of environment has a list of aspects that makes the list we have given for the Lota small by comparison. The roster of disciplines we have suggested can bring about measurable answers to some measurable aspects of the problem, but in addition they must provide the trainee with a questioning approach and a smell for appropriateness; a concern for quality which will help him through the immeasurable relationships.

In the face of the inevitable destruction of many cultural values – in the face of the immediate need for the nation to feed and shelter itself – a drive for **quality** takes on a real meaning. It is not a self-conscious effort to develop an aesthetic – it is a relentless search for quality that must be maintained if this new Republic is to survive.



2

The objective has been stated in Part I. It may be restated as a desire to create an alert and impatient national conscience – a conscience concerned with the quality and ultimate values of the environment.

The functions will be **research** and **training** and **service** – these functions will continually overlap each other, support and correct each other.

The size should be small starting with perhaps a dozen students – but with a faculty that would more than complement them in number. Even as it grew to optimum size, this one to one ratio of faculty to students might well be maintained.

The effectiveness of the institute will depend on the way in which results are communicated. Effectiveness will vary as the square of the calibre of staff it attracts – and as the cube of the degree to which the staff and students become personally involved.

Having stated the objectives (in Part I) we will treat specific aspects of the institute in the following order :

First – The Students or Trainees

Because if we know the objectives we may do well to look around for the available **raw material**.

Second – The Faculty or Staff

Because if we know the objectives and have the raw material we can select the **appropriate tools**.

Third – The Projects or Methods

With objectives, raw material and tools we can begin to plan **the operation**. Refinement of operation will of course call for refining the selection of tools.

Fourth – Aspects of Service

Method of **channelling results** of the operation so as to affect the original objectives.

Fifth – The Physical Plant

Housing and equipping the entire process.

1 The Trainees or Students

The purpose of training these students is to prepare them to meet problems in design, problems which have occurred many times, and problems which have never occurred before – and to meet them all openly and inquiringly. Strictly speaking, preparation for problems that have never been solved before calls for education, not training.

So we must look for prospective trainees who are highly educable and who have some background in the complex areas of environment and communications.

There appears to be, at the present time, only one main group of students who have been exposed to the variety of training and discipline that might prepare them for such work – these are **graduate architects**. (Immediate note of warning) : Graduate architects are recommended **not because** of their design training but **in spite** of it. With some few but encouraging exceptions – the architectural student’s designs are an assemblage of inappropriate clichés. The students themselves seem much brighter than their designs – the disciplines of Physics and Chemistry are not unknown to them. They have in their training applied these disciplines to some sociological and human scale problems. They are aware of the use of materials and some of the functions of economics and they are apt to suspect that these have something to do with the history and development of a culture.

As a group, young architects are apt to be involvable in general social problems and in theatre, dance, music and other aspects of communications. They tend to have a higher than average potential for enthusiasm. This is important because if they are enthusiastic enough they might discover some of the values that exist in the commonplace things that surround them. There are some good clues in the everyday solutions to unspectacular problems, in vernacular expressions that are so often ignored.

This description if carefully applied would be enough to screen the prospects.

Naturally they need not all be architects – an equally responsible young engineer, economist, doctor, mathematician, philosopher or housewife might also be a candidate.

These students become part of a graduate school with a training period of perhaps two years. According to the development of the particular student, several things may then happen :

- ◆ He may continue working in the service branch of the institute.
- ◆ He may be grabbed off by private industry;
- ◆ He may be invited to join some other branch of government service;
- ◆ He may open a consulting office of his own;
- ◆ He may return to architecture as a much needed, enriched version of an architect.

We would hope that those leaving the institute would leave with a start towards a real education. They should be trained not only to solve problems – but what is more important, they should be trained to help **others** solve their **own** problems. One of the most valuable functions of a good industrial designer today is to ask the right questions of those concerned so that they become **freshly** involved and seek a solution themselves.

2 The Staff or Faculty

The permanent faculty would be about equal to the students in number. There would also be a liberal number of visiting critics or consultants from within the country, who would spend days, weeks or months and be drawn from Government, Private Practice, Industry and other institutions.

In addition to this, a few most carefully selected critics and consultants from abroad.

As we have indicated earlier, the scope of disciplines represented on the staff should be extremely broad. Those disciplines represented on the permanent faculty would depend on available men and those not represented there would certainly be among the visiting consultants. Perhaps the real challenge of this program is that it is committed to include a wide variety of disciplines. Here is a list which is no doubt incomplete :

Engineering	Economics
Structural	Art History
Mechanical	Political History
Production	Agriculture
Physics	Dance and Drama
Philosophy	Logistics
Mathematics	Painting
Physiology	Communications
Anthropology	Theory and Techniques
Psychology	Statistics
Architecture	Graphics
Music	Literature
Sculpture	Demography

It may be correctly pointed out that one of the most difficult things is to attract good men to a new institution. The variety of talents listed above makes it more, difficult – but simple.

- 1 Demonstrate that mature, responsible members of the large community are personally concerned.
- 2 Present a prime objective and methods that are designed to give long range benefits to the community.
- 3 Insure a degree of autonomy that will protect the objective from dilution and the method from deterioration.

Warning : In selecting candidates for these posts one must be extremely careful about applicants discontented with their present work or anyone who would look upon the work in the institute as his "chance to be creative". Also in this connection beware of the professional or specialist who when confronted with a problem having to do with **design** – seems suddenly to abandon the disciplines of his own profession and put on his **art hat** – this can happen to those who are otherwise most rational – doctors, engineers, politicians, philosophers.

This method of bringing various disciplines together to attack a problem in a fresh way will be used in India more and more. This institute is an excellent place to start. The method is not easy – the trick is to get the specialist to bring to bear on the problem, a logical extension of his framework of thinking – the nature of the design problem helps because it affords constant illustrations and progress checks.

The faculty will need a strong nucleus of exceptionally aware architects and designers to act as catalysts and preceptors, and to keep the system from oscillating too violently.

The **effectiveness** of the program will depend on the communication links established. Some staff members must be prepared to work and train in communication techniques – exhibitions, graphics, printing, photography, film, demonstration, writing, drama. Through these devices the Institute will communicate to itself and to the nation.

The importance of the exhaustive use of communication techniques cannot be overemphasised. It brings concepts and statements out into the open, to be used, expanded, corrected. One measure of the strength of this Institute will be the degree to which it is willing to stick its neck out.

The Director of the Institute should perhaps not be a professional designer. He should be a mature man capable of approaching administration as a non-specialist – a man who by nature could become part of the Board of Governors and a part of the Institute.

3 The Projects of Methods

To be at all meaningful, the projects must be viewed in the light of the objectives (Part I), the description of students, and the description of faculty. The projects are meant as a possible guide to the nature of activities not the extent.

It is very likely that the staff and students of this institute will have – and want – more work than they can handle. This is good because it produces a sense of immediacy characteristic of living groups and individuals – but not always characteristic of our institutions of higher learning. **Training** will be through participation in and contact with **Research** projects and **Service** projects – plus special exposure to specific disciplines.

Project "A"

There is much discussion, in India, about Standards of Living and there are, at times, some strangely irrelevant (goods and services?) touted as contributing to this standard. In a country that faces the food, shelter and distribution problems that India does, it might be well to take a close look at those things that constitute a "Standard of Living" in India. How do they vary according to time, place and situation? What are the real values? To what degree is snobbery and pretension linked with standard of living? How much pretension can a young Republic afford? What does India ultimately desire? What do Indians desire for themselves and for India?

Buckminster Fuller, a man of great perspective, gave this problem to a group of students – Design a package of services and effects which will be the most essential to salvage from a city about to be destroyed – the program was of course limited – **but** it was not an exercise in civil defence. It was a careful study of relative values – what do you take with you when the house burns down?

It will be seen that this type of research problem can only be attempted within collective disciplines such as we have listed under "faculty". It is a problem with continuity that will be going throughout the life of the institute because it will always be subject to scrutiny and re-evaluation.

It will provide an evolving yardstick (meterstick) against which questions and answers can be checked. It will be a decompression chamber for the new student. It will be a perspective widener for those agencies or parties seeking service. It will be a helmsman for those working in the institute. Any institution needs such a continuous restatement of its objectives.

Project "B"

In the same way that Project "A" helped to build a foundation of values, Project "B" and ones like it will provide the framework on which the training and service programs are built.

This is the careful examination of old problems in new lights and search for the beginning of new problems and the attempt to make a valid statement of solution as of this time. It is a project that can fully exploit the broad experience of faculty and consultants.

Example :

To study the shelter and environment, all the artifacts and services required for a family in a specific agricultural community to make statements of solution in drawing and prototype.

It starts out much like the problem of the Lota.

- ◆ Consider the history of the country and all its social mores.
- ◆ Consider the weather.
- ◆ Consider the local resources, the productivity of the land – its probable future.
- ◆ Consider the state of education, its future plans.
- ◆ Study available materials, available skills, the good things in the vernacular, the bad.
- ◆ Study the ventilation, devices for ventilation, food storage, sanitation, safety, security, and the kinds of pleasures these people respond to.
- ◆ Make drawings, mockups, full-sized working models of the shelter, the fittings, the devices, and every artifact involved.
- ◆ Study the economics – immediate and long range.

Detailed example : Study the problem of **lighting** in terms of increasing literacy and existing resources – consider the possibilities of electrical power becoming available and devise ways of making **genuinely effective** use of this power in terms of light – consider light uses – to banish fear, to work, to read, relax – make working models – prototypes – consider a system of wiring that will be efficient, effective and of such quality and concept that it will contribute to the whole, not detract.

The advantage of this attack on such a problem is that it clarifies the basic issues. We are searching for a device to turn power into an appropriate quality of light. We are not setting out to design a

“lighting fixture” (the word “lighting fixture” is loaded with preconceived ideas). Furthermore we are doing it for a situation of most rigid economical circumstances – where basic values must remain clear. This line of attack **could** end up in a highly desirable piece of equipment – BUT the chances are that it would not end up highly desirable if there was much premature anxiety (see *Gita* quote) about how desirable and saleable it would turn out.

Project “B” would then arrive at a point where there was a collection of models, prototypes, history, cost data, looks into the future, etc.- but the responsibility of the Institute does not end here. In order to be a real contribution in these fast-moving times this information must be **organized** and **communicated** in a far-reaching digestible way. This means exhibitions, films, literature, made and organized as part of the service program of the institute.

Working in these media is great discipline for making statements in a communicable way. It is also a way to quickly discover mistakes – mistakes quickly discovered and acted upon can be of great value. Such an institute must have enough autonomy to be free to make its own mistakes – free to stick its neck out.

Project “C”

The general procedure of exhaustive analysis and specific statement is much the same in this project as it was in the one above. However, the situation is of a special nature with special problem characteristics – a railroad station or a post-office or an information center where the solution may in many ways be standardized but yet must be adaptable to a variety of localities.

We will take a post-office as an example. This is a good problem for a number of reasons :

- ◆ In terms of values – this begins to reach out and suggest something of the symbol or image of the nation – one looks for confidence in that image and pleasure in that image and help from it.
- ◆ The pieces of equipment involved must be able to serve equally well in most parts of the country.
- ◆ Much of this equipment will parallel the requirements in other office problems.
- ◆ Because it houses a responsible government service – the building should be adaptable to the climate, unpretentious and inviting.
- ◆ Because it is an image of the nation it should be pleasant to come upon, easy to keep clean. It should be related to a public place –

the public spaces, the fittings, the hardware, the counters – the light should be as though this image really wanted to serve. The signs should give information with dignity and conviction. Ways of providing other needed information should be explored – as should the uniforms, the stamps, the posters, the trucks, the printed forms, the post office pens, the poles that hold flags.

- ◆ To work on such a problem is to unearth many clues important to the prime objectives – a statement of quality values across the nation could form a contagious network. This too would make an exhibition and a film and word would be getting around in India and abroad that somewhere here in India there was growing concern about the quality of things – and that new and healthy values were beginning to appear.

Project "D"

Has to do with a design for an occasion.

The occasion could be :

The welcoming of some foreign dignitary, a national festival of music or dance, the investiture of some public officials, the Olympic Games, a national holiday parade, the mayor's birthday.

This kind of problem has in it many unique characteristics of value to the other projects, to the general direction of the Institute – but they are not easy to state. Like most problems in design and architecture it is a problem in true **speculation – before** the act relive the act before and evaluate many possible courses of action.

The great opportunities in the occasion is that it involves mood, symbolizing a kind of faith and a **limited time span** – the limited time is important. Cultures need occasions when they can be gay, symbolic, moody, colourful and yet not be held to it for all time.

The materials of the occasion are even different : they are flowers, paper, ribbons, wire, cloth, smoke, color, air, music. None are asked to hold – to the point of shoddiness – they are gone before they die.

It is a tricky problem and a good one for the Institute because it seems light but demands a knowledge of prime objectives, demands discipline, demands a concept, demands unity – that it why traditional parades were great, and indecisive modern parades just fall to pieces. The Republic Day parade was an example. All the traditional units had some measure of concept and unity (with the exception of the music itself) : even the military sections had a discipline that carried it through – but the floats which had no underlying discipline turned out to be an unrelated sentimental hash. The floats had none of the conviction

or gaiety of their religious counterparts in other parades (Incidentally, if an elephant is decorated at all on such an occasion he should be beautifully decorated).

It would do neither the Institute nor the image of India any harm to treat an occasion.

4 Aspects of Service

The broadest service would in fact go to the people of India – through the Exhibition, Films and Literature – and through the fact that there was a group concerned solely with quality and performances of the things they, the people, used every day.

Service to Industry would get more detailed material and would also provide a method by which industry could come to the institute with problems. The institute would not provide a “design” service but would help analyse an approach to industry’s problem and familiarise them with just what was happening within the Institute. Such an exchange of questions could be of mutual advantage. Some graduate trainees who stay with the Institute and become part of the service wing could visit areas where direction in attitude was needed.

Undoubtedly prototypes developed in the Institute would find their way into production, but the greatest help would seem to be in triggering similar attitudes and disciplines in industry itself.

Service to Government

We feel that it is very important that the Institute invite other branches of Government to avail themselves of the service. It is important to have at government levels **some** intercourse in the areas of quality, discipline and image.

The nature of the request for service could take many forms :

- ◆ The integration of the design of letterheads, printed material, bulletins – the graphics.
- ◆ The study of the approach to a problem of equipment for officers.
- ◆ The planning of an exhibition representing some aspects of Indian activity – for local circulation or foreign circulation.
- ◆ The planning of details of treating an occasion.
- ◆ The design of an international document.
- ◆ The selection of a present for a foreign head of state.
- ◆ The opportunity to just talk over the problems of national image and of values.

This would be a “design and research” service, but the restrictive aspects would be this – the outside agency or department would have to bear the expenses of the work **and** the institute would have the right to final decision on the solution. These restrictions would keep the institute from being overrun by service requests – for a while, that is – until just after the first projects are made public.

5 The Physical Plant

The real introduction of the Board of Governors to each other and to the faculty and the introduction of the faculty to each other and the first students to life, will come during the analysis and planning of the buildings to house the Institute.

One has the feeling that such an institute should either be housed in Fatehpur Sikri or else the most unmonumental, anonymous, pleasant, unpretentious, workable, unshoddy, national buildings possible.

They should face the problems of climatic comfort, **both** with airconditioning and without.

Students and some faculty should live within the complex because much of the development of ideas and individuals would be on a round-the-clock basis – including food, music, conversation, special films and programmes and work.



Extract from Tribute to Charles Eames

Pupul Jayakar

. . . Unique Document

Out of the visit came the Eames report, a document familiar to most students of design in this country, unique in its insight, its demands for quality and the depth and width of its thinking. Commencing the report with the famous phrases of the **Gita**: 'On man's right to work but never to the fruits thereof', the report sees the 'change in India, a change in kind and not a change of degree'. Seeing the complexities of the revolution in communications that had struck India with terrific impact, 'made more violent because of the nature of India's own complex situation, isolation and tradition', the report focuses on India's tradition and a philosophy that is familiar with the meaning of creative destruction and stresses the need to appraise and solve the problems of our times with tremendous service, dignity, and love'. 'The search for form demands an investigation into values and qualities that Indians hold important to a good life', and that 'there be close scrutiny of those elements that make up a standard of living'. The report goes on to urge 'a restudy of environment and skill and to think anew on detailed problems of services and objects. To restate solutions in theory and actual prototype', and 'to explore the existing symbols of India'.

The preliminary report was that of a creative genius and philosopher who had delved deep to discover and pinpoint the crises in the field of form, function, and a way of life. The detailed notes that followed it spelled out the technological hardware necessary to build the workshops that formed the integral structure of the institute and provided facilities for training research and service in the field of design, in its widest sense. The National Institute of Design was born. . . .



Through the years, Charles and Ray continued to visit India to meet old friends and to visit the National Institute of Design. I was in the USA and Canada, in July and August of 1978, and had spoken to Ray on the phone. Charles was away, but we had planned to meet before I returned to India. I lost contact with them as I had gone for a holiday into the interior of Canada, but on my return to Toronto towards the end of August, found messages awaiting me from Ray. It was on the phone that I heard of Charles' death.

Charles Eames was a giant amongst the new educators of the environment. Exponent of a new culture born of the vast technological and communication explosions that were transforming the environment and man's life, in him we saw the culture's mature flowering. His compassion and depth of seeing enabled him to draw from the riches of the past to provide the human dimension to his projects; with this there was infinite concern with the practical and with detail, a precision that made enormous demands on those who worked with him.

