

## Expression As A Basis Of New Form In Industrial Design

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Industrial Design is a young discipline. We can see the beginnings of its identity in Bauhaus (1914) the famous school of Design in Germany. Even at Bauhaus, the roots of Design were in Arts and Crafts. The methods used by practising designers at this time were subjective and intuitive. The education of design was more by practice and through apprenticeship. We can say that designers at this stage mainly depended on what Polanyi calls 'Tacit Knowledge',<sup>1</sup> the knowledge one exhibits while doing things and practising professions but is unable to articulate.

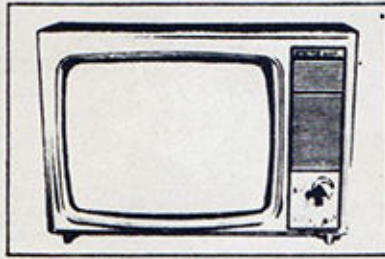
As Industrial Design got more and more entangled with Engineering, the importance of articulating this tacit-knowledge became obvious to design-thinkers. Assertion by Sir Misha Black of Royal College of Art (England) that Industrial Design is an extension of engineering, and acceptance of a formal definition by ICSID (International Council of Societies of Industrial Design) as suggested by Thomas Maldonado, Rector of design school at Ulm (Germany), are land-marks in the articulation of Industrial Design.

Yet, Industrial Design lacked the academic back-up to stay at par with well established disciplines of Science and Engineering in an Institutional structure. Its ways of working and procedures could not be easily and convincingly explained or institutionalised. At this stage, an exhaustive contribution came from Prof. Bruce Archer,<sup>2</sup> who is probably the earliest to suggest a systematic method specific to Industrial Design. His method, influenced by the problem-solving methods in Science and Engineering, gives a broad structure suitable to Industrial Design, but hardly goes into details concerning the 'Form' in Design. Infact, designers who deal systematically with all the other aspects of a product, resort to completely subjective methods when it comes to dealing with the form of the product. As a result the task of articulating those aspects, which are the very concern of designers, is left out and designers conveniently draw their Artists' Masks at this stage if pushed into a corner. It has been in the purview of philosophers to talk about the aesthetic aspects of Arts. Industrial Designers, being engulfed with technology, seem to pay little attention to what philosophers have got to say on aesthetics. Consequently, such articulations of Art which could provide rich theoretical background, seldom form the basis of the pedagogy of Industrial Design.

With these very concerns I propose to examine Expression as a generative tool, to arrive at new Product Forms, Expression as related to product refers to the physiognomy of a product. In the past, expression has been associated with living beings. But thinkers like Rudolf Arnheim have extended it to non-living things when he says "....., expression is not limited to living organisms that we assume to possess consciousness. A steep rock, a willow tree, the colours of a Sunset, the cracks in a wall, a tumbling leaf, a flowing fountain and infact a mere line or colour or the dance of an abstract shape on the movie screen has as much expression as the human body and serve the artists equally well."<sup>3</sup>

Obviously Arnheim is referring to the feelings or emotions that the 'Form' could generate in a person when he/she perceives it. According to him, Nature expresses itself to evoke feelings and emotions in man by its very form, proportion, colour, etc.,. Similarly we conclude that all man-made, objects as well could express themselves. But what is the designer's role in the creation of this expression? Let us look at the definition of Industrial Design<sup>4</sup> proposed by Thomas Maldonado and accepted by ICSID. "Industrial Design is a creative activity, whose ultimate aim is to determine the formal properties of objects produced by Industry. By 'formal properties' is not meant the external features but rather those structural and functional relations which convert an object into a coherent unity from the point of view of both the producer and user."

In this definition one sees the overcautious approach of not referring to 'expression' at all. 'Coherent unity from the point of view of producer and user', is supposed to contain the expression aspect of form. In fact, this definition is a reaction to the situation, then prevailing. Industrial Design was by and large being identified with the 'styling', the superficial, decorative approach as practised by some designers at that time. Maldonado's definition would give an impression that the 'formal properties' which the designers determine are a natural outcome of taking care of structural and functional relations in the conception of a product. This notion, which all experienced designers know as incorrect is well clarified by the British philosopher Louis Arnold Reid<sup>5</sup>, when he says, "Structure and function, however, as independent facts and in themselves, are neither beautiful nor ugly. To a percipi-



ent who sees them as embodying the "values" of function and structure, they may appear as beautiful (though it is a doubtful assumption that any structure may be so perceived). Sheer structure often delights and may be aesthetically perceived (with the inward selectiveness which aesthetic perception always involves) and in some cases it may be enough for an architect to let the structure show. But this is a *deliberate* and aesthetic choice. Often, however, the architect shows up the aesthetic quality by selective treatment, emphasis, simplification, elaboration. This takes many different forms."

So we can see that the designer is making deliberate aesthetic choices, which would result in the aesthetic expression of a product. And what does an Industrial Designer express? We can certainly put aside 'self expression', as Susan Langer<sup>6</sup> did, while discussing the expressiveness in Arts. Now we can look back at Maldonado's definition, which lays the boundaries of Industrial Design clearly by emphasising its link with the maker and the user. The expression in Industrial design is inherently related to the manufacture (make) and use. Expression that relates to the manufacture (make) comes out of the designer's depth of understanding of material and process, in short technology, as well as the attitudes, values and skills of the maker.

Expression that relates to the 'use' comes out of the psychological relationship of the user to the product. How a person connects or aspires to connect himself/herself with the product when he or she comes into contact with the product as an individual, a professional, a family member and as a person belonging to a particular sect, belief or society forms the basis of this expression. We may call this aspect of 'form' as the "psycho-physiognomy" of a product. We shall explore in greater detail how this can form a basis to generate new 'product forms'

We can divide all products into five categories on the basis of the psychological relationship of man with a product.

1. Products for personal use
2. Products for family use
3. Products for professional use
4. Products for public utility
5. Products for religious or ritual use

### 1. Products for Personal use:

Personal products become the very extensions of 'one's self'. They are often the physical extensions of one's body like a pair of spectacles being an extension of the eyes, as also being extensions of one's personality or image. Self identity, is the key-factor in the psycho-physiognomy of such a product. The different ways that people identify themselves, may give us clues to articulate the basis on which to generate new product forms. Feelings such as strong, soft, delicate, rugged etc. could be used as one such basis. Images like those of a Scientist, a Businessman, a Sportsman, a Religious believer, etc., could serve as another basis. How the first basis is used in case of a 'pen' is described in detail later.

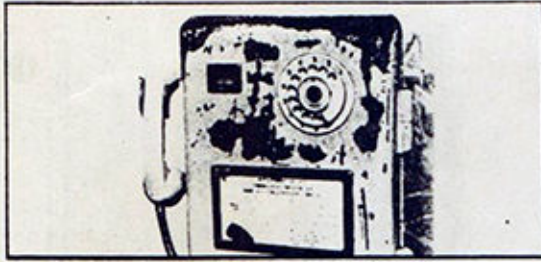
### 2. Products for family use

Products used by a family, are an extension of the social, ethnic and cultural values of the family. When products like a refrigerator, a T.V. set or Furniture in a household are used by a family, the identity with the product is based on the class to which the family belongs and not so much with their individual personalities. Even a 'social rebel' belongs to a 'rebel class', and the values which control the psycho-physiognomy of the product stem out of their culture, ethnic group, social customs and so on. This is because, the concept of a family is of social, ethnic and cultural origin.

What the product means to the family psychologically and what it has replaced historically, would give us the clues for the psycho-physiognomy of a product. Thus a T.V in an Indian family is an object central to social gatherings like an idol of God or Goddess and receives all the care, importance and decoration an idol commands. Thus the study of these subtle psychological and metaphoric relationships between the products and the users can bring a new dimension to the formal expressions of the products used by a family.

### 3. Products for professional use

In this case the product is an extension of one's profession or work, which one does to earn a livelihood. In India, machines and tools are worshipped like Gods, especially on the Ayudha Pooja day<sup>7</sup>. Indian worker readily accepts an expression of 'awe', 'fear' and 'danger' in the machine, as it is for him, a God or Goddess in the ferocious form.



In fact the safety-guards on the machine are quite often removed by the workers, for operational convenience, inspite of knowing the dangerous consequences. The visible expressions of a function seem to be an important factor in a machine. Again the machine is a colourful Indian God with all the details of its functions. Machine as a slave which may be a Western 'metaphor', is not quite the same in the Indian context.

Professions by their very 'functions' acquire images depending on the philosophy or belief expounded by the dominant professionals from time to time. These images provide the base for expression of the products used for professional use. Thus scientific instruments may have to look 'precise', agricultural machinery 'rugged', medical equipment 'clean' and so on. Designers will have to study the nature of these professions in detail in order to articulate these expressions in all their subtleties. In designing an electric forklift one may have to articulate expressions like 'strong', 'healthy', 'modern', 'reliable' rather than 'rugged', 'gigantic', 'conventional' in order to enhance its acceptance.

Thus we may contend that the articulation of 'professional images', keeping in mind the metaphoric influences, could give us the basis of psycho-physiognomy of products in this category.

#### 4. Products for Public Utility

Products used by the public in a society are the extensions of the society itself, with all its cultural and traditional values. Public behaviour tells a lot about the psychological state of its people in relation to one another. Thus the defaced signs of a New York local train, or a broken public telephone in Bombay, are signs of psychological frustrations of the users in that society. Products for public use may ask for 'expressions' which would appease or counter such frustrations. The expressions may also depend to a great extent on what the future society or human psychological relations ought to be. Sometimes the products in Public, by their very expressions may provoke undesirable behaviours. A barbed-wire fence is such an example.

Intellectuals, poets, writers, newspaper editors, futurologists, anthropologists and designers form an important group who could articulate the desired expressions of public products. Thus, in case of a hospital environment expressions like openness,

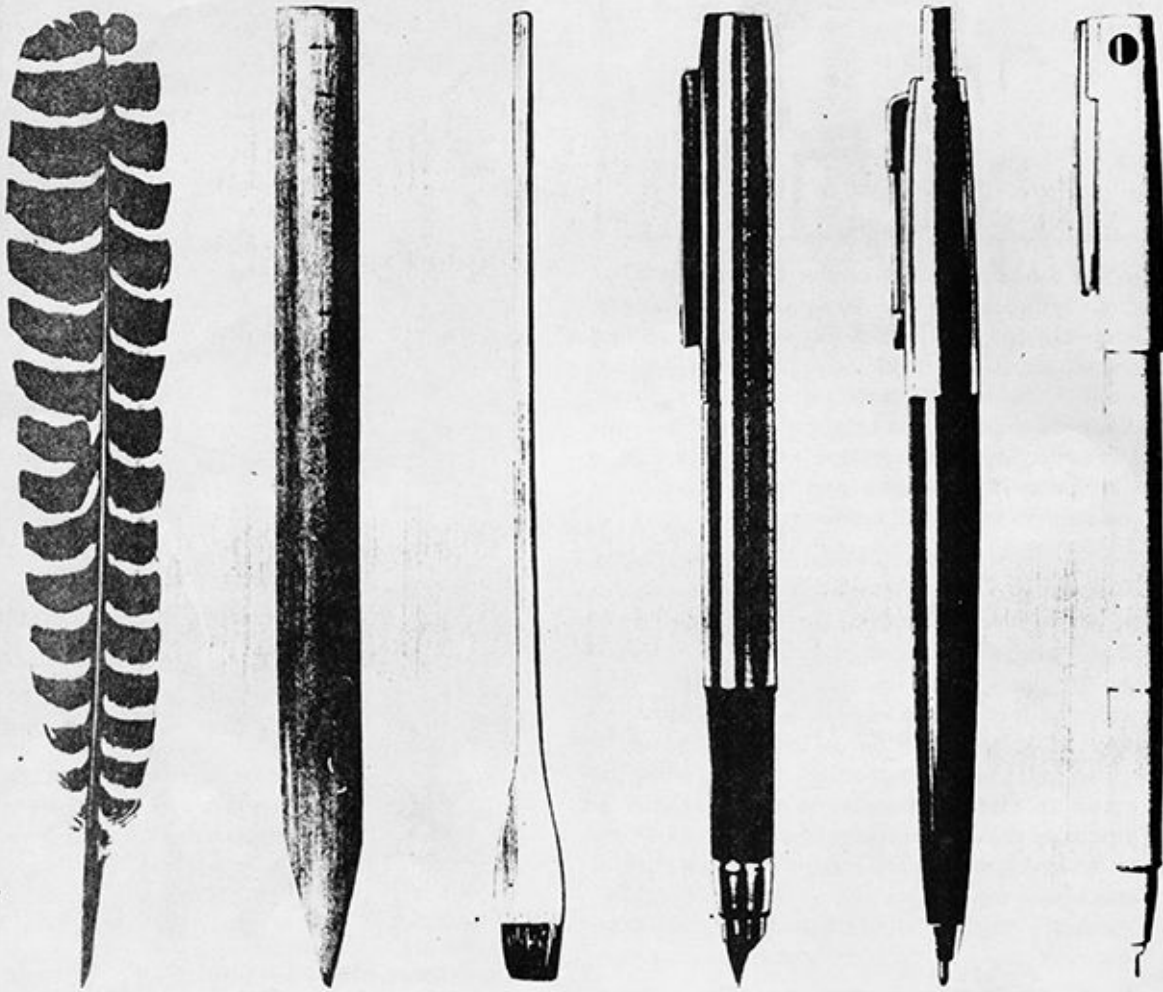


friendliness, life and health, as articulated by a designer or a psychoanalyst would give more appropriate clues than if the patients were to convey their image of the hospital or a bureaucrat were to opinion the nature of a hospital.

#### 5. Products for religious or ritual use.

Products in this category are the extensions of religious faiths and beliefs and the ritual practices carried on from the past. Product expressions are articulated by religious 'gurus' and the ancient books of knowledge. The expressions are of conscious and subconscious origin. The study of the philosophical backgrounds of these religious and ritual practices with their in-depth significance would give clues for product expressions. Thus, in case of a helmet for a sikh, though person's safety and comfort make it a personal product, the religious significance makes it a religious product and the deep meaning and significance of the existing turban need to be understood in deciding the expression of a helmet.

Any product can be grouped into one of the above categories to get clues for deciding the psycho-physiognomy of it. Complex products may belong to more than one category. We shall examine how the product expressions can lead to new product forms in case of a 'pen'.



A 'pen' may be classified as a personal product as it is normally a personal belonging. The literary meaning, 'writing instrument using Ink', only gives us the functional boundary of the pen. We can look at the 'history of pen' to understand what it means to the user.

In the beginning pens were made out of feathers, quills or reeds. Its latin origin 'Penna' means 'feather'. The sanskrit name 'Lekhani' means 'something to write letters with'. The pen at that time represented a prerogative of the educated. The whole set, the pen, ink-container and a writing plate was carried by a courier. It had a religious, literary authoritative link with the user. Personal identity was coupled with this prominent position in society. And it is not surprising to find Sanskrit texts giving, the symbolic significance of colours by linking to casts: Brahmin type of pen with white colour gives happiness, the Kshatriya type with red colour leads to poverty, the yellow coloured Vaishya (businessman) type of pen gives plenty of money and the black coloured Asuri or Shudra type of Lekhani (pen), deprives the writer of his wealth<sup>8</sup>.

The advent of 'fountain pen' changed the functional boundary of pen substantially by having the

ink-container within the pen. Pen became a personal possession that could be carried with the person. The 'expression' was of the technology which was articulated by the brand-name. Pens by Parker, Sheaffer and Swan were cherished possessions because of their brand names.

The introduction of ball-point pen made it a mass-consumed article. Throw-away concept in this pen led to less of personal attachment. The felt-pens which started as sketch pens soon became writing pens, with the micro-tips. We can see how these pens have led to the introduction of many new designs in the Western Market, to make it a personally identifiable pen.

Now if we put the question, "What does a pen mean to the user?" We could say that it is an item of 'personal identity'. It can reflect one's self image or aspiration. Feelings like soft, delicate, strong, precise, etc. were used as poetic expressions which persons identify themselves as, to generate different forms of pens, in a student task at I.D.C.<sup>9</sup> The above expressions were first studied in Nature to understand the abstract formal characteristics associated with these feelings. Using this study as a basis new pen-forms were arrived at.



It is significant to see how this exercise has led to different unified forms of pens with a wide variety (though the same task in the hands of an experienced designer could have led to better results). It may be worthwhile to examine the innumerable, amusing but senseless designs of pens appearing in the Indian market as the makers have no clues as how to deal with a saturated market.

Thus we may conclude that articulation of Expression can serve as a basis to generate new, meaningful, product forms in Industrial Design.

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