

understand man. Because it seems to be the role of the artist to chronicle man in a formal manner. Does the artist understand man automatically, because he is an artist or an architect?

Considering the new techniques of illumination which have been given to man—does the architect understand the effect of light on his fellow men automatically? It is generally agreed by those who have considered this question that “very little is known about the effects of illumination on living and inanimate forms—but the architect would still proceed with full speed. Within a generation the face of architecture has now been changed. Not by the architect but mainly by the engineer. The structural engineer and the lighting engineer and by management. Still no one thought it necessary to call this new form of architecture, totally unknown in its effects on man’s biological or psychological nature, a form of **EXPERIMENTAL ARCHITECTURE!** Not even in a formal sense.

A conception of modern architecture as “experimental architecture” can be justified not due to changes in building techniques and building materials alone. But primarily because of the total change to which this architecture has subjected frequently its users. Within a generation architecture has abandoned its traditional notions, its sense of constancy its search for harmony. During the past centuries space had reached its evolutionary peak. It was beginning to expand to a degree necessary by man’s needs: space had become civilised during the age of the Baroque at the latest. Space could be conceived now by architects, even on an individual scale, in such a way that “visual satisfaction” could be obtained from its experience.

And visual satisfaction seems to be an important goal for man whose prime mode of communication with the objective world is by means of his optical sense. Architecture which we call modern, was born partly from need and partly out of protest. As a reaction against the not too distant past. The catalysator being the setting on of the age of **INDUSTRIALISATION**, which began in Europe at the beginning of the 19th century. Contemporary architecture and architectural thinking has been fundamentally affected by the machine and mechanisation. Surely modern architecture has been guided, at least for a century, by the machine ethic and not by uniquely humanistic considerations. This makes the claim of the Viennese architect, **ADOLPH LOOS**, hailed as one of the first modern thinkers that “*Decoration is crime...*” an entirely rational and justifiable statement. Modern architecture and its spokesmen have not been analysed in terms of the validity or invalidity of their points of view. Modern architects have been hailed or they have been rejected. But this cannot be called a rational form of criticism of content.

Architects have produced in this century many definitions concerning their particular “personal” estimation of architecture. But still, one cannot say that the definition of architecture, expressed as a need for shelter has changed in a fundamental way.

Architecture had defined itself in a slow process as it progressed through the

centuries towards the age of the Baroque, when space became civilised. Architecture is uniquely a structure of man’s creation, spiritually and materially. This architecture serves the idea of utility as well as the need for grace. In other words man has said as he evolved through the ages to the builder of houses: “I need a shelter for my physical person. But I need also a shelter for myself as an emotional person. Thus architecture has to satisfy two fundamental needs.

The question of decoration in modern architecture is not a simple one to be answered with a yes or no. Decoration does provide visual interest but beyond that, it serves specific needs. Decoration as colour, as pattern, as variation of contrasting materials serves as point of reference to the human psycho-sensory system for the orientation of this system in an artificial, man made environment. But classical architecture as a creative process and as experience has been put on the defensive by modern Technology. In a technical perspective it is easily forgotten that it is **ONLY** the architect who represents that particular form of experience and human wisdom which finds its expression in structure, in shelter in buildings needed by man. It seems somewhat less than judicious to place a young technological “expertise” in opposition to the weight and quality of an accumulated sense of wisdom and experience, especially since modern technological experience frequently is but one generation old and untested.

A primary factor during the onset of the Age of Industrialisation was the **EXPANDING WORKDAY**. This led to the accelerated development of new types of buildings, such as factories and offices and the means of their illumination by artificial techniques. A consequence of this development was the fragmentation of the age old cycle of time, the alternation between the normal day and night periods which had guided man’s activities before the 19th century. Electrical lighting is nowadays taken entirely for granted, and man has adapted all his thinking to the presence of this resource. Still electrical lighting was relatively new even 50 years ago, but has become universally available in our time.

### The age of incandescence

Illumination by means of a heated filament is a very inefficient method of generating light. Because the filament is primarily a generator of heat, visible light can be considered only as the by-product in this process. Still incandescent lighting has a history of nearly 100 years. This type of lamp has only been perfected in our time, through the application of the iodine cycle. It is the lighted bulb which remains for many people the chief characteristic of electrical lighting. But now for a generation a new light source has been available in the form of the gas discharge lamp. Artificial methods of generating light have a well defined physical basis. The desire to discover the laws governing this process and the linking of

light to the visual process was responsible for the new science of illumination in the present century. The science of illumination developed from its initial interest in the manufacture of efficient sources of illumination into a broad area of study incorporating optics, physiology, psychology and technology. This new science was first recognised in Germany in 1921, with the establishing of the well known **Lichttechnische Institut** at the University of Karlsruhe.

Man has succeeded with the aid of science in this century in transforming the world. The modern city is now a seat of activity around the clock because light is available at will. We tend to view every step forward as “progress”, and there are many benefits which have come from man’s scientific activities, which can be shared by the whole community. Still there is too little known about the effect of such fundamental changes to which man has been subjected in recent years.

### Another definition of Architecture

Man can turn the darkest corner in a building into spots of intense light and brightness. For some this goal appears less than satisfactory. Generating a novel idea to the effect that, since artificial light is available in unlimited quantities, man can now dispense with the use of natural light in buildings. This somewhat startling notion has already been put into practice in a number of countries, including the USA and Great Britain. What about the “social consequences” of this type of building design? This thought does not seem to affect specific plans and projects as has been shown in a number of controversial examples, such as the case of the Public School 21 in New York. An architecture which is essentially a function of technological decision making does not seem to interest sociology very much. But using the capability of including, or excluding such biological resources as natural light from a building is perhaps the most far reaching decision which can be made by the designer and architect. Such a decision is made against the best interest of the user, generally in order to test the responses of the users of such buildings. Surely it is possible to reproduce the quantitative aspects of natural light by artificial methods of generation, but it remains an open question if this ought to be done. In fact technology, including lighting technology, can be used to a greater purpose than in interfering with the normal cyclical functioning of man’s biological system.

There is now considerable information available concerning the existence of a built-in biological time clock, which guides the processes of the human body. Research has established the existence of a two level process in the form of **SENSE CONTACT** and in second manner a contact between the visual sense and the vegetative nervous system.

It is at the linkage of the two systems of communication that man’s emotional well-