

being is linked to the various environmental, that is physical influences which are communicated to the body. It is believed that light has an even more important biological function than is to be associated with vision as it affects the whole body. We all know that man responds to light in a direct manner as do all living things. On this basis it seems certain that man is a fairly fixed entity operating in relationship with fixed environmental influences. He cannot be subjected at will to decisive changes in the environment. Man as all living things, is governed by certain dominant cycles of time and energy. His own responses are entirely varying in intensity as well as in terms of quality. It has been found that the peak of the activity cycle (the energy cycle) is in the morning between 8 a.m. and 10 a.m., after this the physical and the psychological fitness of man begins to drop reaching its negative plateau around 4 p.m. in the afternoon. This cycle has its inverse parallel in the variations of skin resistance to alternating current which varies in an opposite sense to the activity or energy cycle. This cycle makes also demands in terms of more light or less light which is needed for the execution of given tasks. This need must be satisfied as if it were due to an internal programme.

Is the architect sufficiently informed about such matters? Apparently not; he would not otherwise create buildings which are in opposition to the biological entity man. Architecture and engineering are among the prime environmental factors whose potential must be harmonised with the needs and expectations of man. In other words the specialised disciplines must be humanised. How can this be accomplished? Possibly by a process of education which weighs the human element at least as important as the question of aesthetics. The architect should be better informed and not only about architectural systems. Architecture ought to be redefined as a humanistic instrument and not as an end in itself. The definition of architecture as "... shelter with grace" cited earlier seems to be eminently humanistic for any age. It seems to be an eminent desirable goal.

The question of light and lighting in architecture remains an important one, because this tool can be used to an advantage. But one should be conscious about abuses and the tendency of a discipline to propose system-oriented solutions. The question of a "humanised environment" cannot be decided by the architect, nor by the engineer or the planner. Specialised disciplines lack altogether enough knowledge about each other's motives. What is needed is an agreement to co-operate. This can lead to a mutual understanding of one's capabilities and limitations. Certainly this seems to be an interesting time of opportunity for the student of architecture and lighting, who may now move along this path of co-operation towards the resolution of common problems which to all purposes remains another definition of architecture.

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# An audience will accept almost anything except boredom

ROBIN CLOSE

A few floodlights, in full view of the audience, a poor quality tape laboriously telling the history of a building while the wind blows rain into the audience's face is not *Son et Lumière*: but it is too many people's experience of it. They leave vowing never to go to another—and who can blame them? If they do it will probably be an hour's agony on a church pew on a cold winter night. But it should not be; and it need not be—provided there is enough money and talent available.

Since Jean Cocteau raised *Son et Lumière* to an "Art" with his production at Versailles it has sprung up round the world like mushrooms on dark nights. But Cocteau, master of the abstract and a man of theatre, could be relied on to be interesting in a new medium. Now *Son et Lumière* is accepted it produces its fair share of toadstools. It is a static medium more suited to the painter and radio producer than many who undertake it. It is also a very expensive medium and in this country too much at the mercy of the weather to be fully exploited by more than a handful of producers. And far too many of those that try hope they can "get away with it" and ignore another Master's dictum, "You can do almost anything with your audience, dear boy, except bore the hell out of them!" *Son et Lumière* can do that very quickly because nothing "happens" except in the audience's imagination.

From the beginning writer and lighting director must be in close contact to ensure that there is not a ten minute sequence which cannot be lit other than with pictures that add nothing to the emotion or thought behind the words. To assume that lighting effects somehow try to replace live actors is to miss the essence of *Son et Lumière's* abstract quality. Lamps are tools used to create atmosphere, effect, to heighten the meaning of the words—all by painting pictures that constantly change. And usually the script is finished before the lighting director gets a glimpse of it. Too often it is written by a "man of letters" rather than of theatre, let alone masters of abstract sound or poetry—what a script Dylan Thomas might have done!

But the Producer has a headache that affects both writer and lighting director that is a fundamental reason for the audience so often being disappointed—cost. Certainly there are rules of thumb for the lighting expert: use colour, shadows, silhouette; no single picture to last unchanged for longer than it takes the audience to notice every feature of the section he is illuminating and appreciate the overall effect. In an hour-long show (and that is about as much as you can expect your audience to take) the operator's hands will never be idle. But every effect the lighting expert can envisage is governed by one simple consideration: how much will it

cost? (And can the Producer afford it?) In *Royal Windsor* a sequence which worked to perfection lasted exactly 54 sec (except the night a lamp shorted and blew a whole complex circuit!). It involved 20 lamps, seven separate and complicated cues—and cost fractionally over 5½p per second for the lamps alone; leaving aside proportion cost allotted to switchboard, operator's time, cables, filters etc. The headache that becomes the lighting man's nightmare is that an hour's performance @ 5½p a second would cost £198—for the lamps alone. But studio costs for making the tape will be in the region of £500 at today's prices if professional quality is required (and when is not it, please?): so for one week lamp hire plus tape adds up to £1,688—and that is without the actors' fees; another £550 if they are to be "names" to draw the public; the script by a writer with any reputation, another £500—so for £2,738 there is a show that nobody will come to see because the £300 (minimum) hasn't been spent on publicity! He is over the £3,000 mark before he has paid for a sound system to play the tape and switchboard, cables, operator for the lights which will cost at least another £100 to have rigged anyway!

Of course, budgets do not quite work like that, but *Son et Lumière* is expensive no matter how you do it—if the audience is to be given what it is paying for: entertainment.

A recent preliminary budget worked out for a church with capacity for only 400 with acceptable sight-lines gives an example. The sponsors, with perhaps a couple of thousand to spend, wanted "A first class show, no expense spared with the best names in the business; and it is to run for the three weeks of our Festival". Keeping everything on tight rein and rounding all figures to the nearest £10 as a working basis:

Artists	550
Lighting hire	1,500
Programme printing	250
Publicity (minimum)	300
Studio costs (tape)	450
Script writer and research	500
Rig, derig lamps	200
Sound system (amp. speakers)	300
Operator (manual)	240
Lighting director	250
Producer fee	750
Misc	250
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	5,540

They said "No thanks" quite politely!

But costing, budgeting, casting, sound and finding the backing—these are the Producer's problems: the lighting specialist has his own, particularly if he is not consulted in the early stages.