

A POINT OF VIEW

INTRODUCTION

Society places a high value on views: be it real estate, hotels, or offices, good views cost more. But is a 'view' just a status symbol or is it beneficial in terms of health, well-being and productivity? What constitutes a 'view'? How important is it? Research by environmental psychologists and other academics suggests that access to a view and daylight is very important.

A view is traditionally provided through a window. The function of a window is to give access to light, air and a view. With today's technology a windowless environment can provide excellent lighting, air quality and visual interest so why do we predominantly have a preference for windows? Windows must provide more appeal than what these qualities offer.

This paper will review the existing research and propose how, as a profession, we can build on it to produce findings specific to our work that we can implement in our designs, to create not just lighting installations but comprehensive visual environments.

EARLY RESEARCH

The 1970s brought about a need for energy conservation forcing designers to fundamentally re-evaluate how buildings were designed. Building fenestration was one area under review as windows created issues with heat loss and gain.

In the past windows were essential in providing day light and fresh air without which a building would be uninhabitable. Now, however, the advances in artificial lighting and ventilation systems means that these functions can be provided without the need for windows. A design trend emerged toward reducing the size or eliminating windows altogether. The notion that windows were now redundant led to Collins (1975) undertaking a review of research into windows. Collins reviewed 88 window- related studies carried out in a variety of environments and found that in general windowless environments were very unfavorable with occupants.

Research by Ruys (1970) showed that 90% of office workers studied expressed their dissatisfaction with the lack of windows and 50% felt it adversely affected their work – they stated lack of a view as one of the main reasons. Sommer (1974) found that workers in windowless offices tended to compensate for the lack of windows by putting up pictures, again suggesting that it was a view they were craving. Similar negative responses to windowless classrooms were found. Burts (1961) argued along the lines of the early 1900's open air school movement, that the view out of a window provided an educational experience in itself.

Research in hospitals by Wilson (1972) found that more than twice as many patients in windowless wards suffered from post operative delirium than in wards with windows, along with a greater incidence of post surgical depression.

Looking specifically at view, Markus (1967) assessed the view preferences of office workers finding that 88% preferred landscape, 8% nearby buildings and 4% sky. While studies by Ne'eman and Hopkinson (1970) and Keighly (1973) concluded that window size and shape affected the quality of a view and that it was possible to have a window size that was considered unacceptable, <20% of the wall.

Collins concluded that 'windows provided many more functions than just sources of light and air'. Windows provided a view out, they also 'furnished an indication of status or wealth' and added visual interest/character to a space. A view out relieved feelings of claustrophobia, monotony and boredom,



NULTY+

provided a change of focus and allowed access to information such as the weather and time of day. Collins found that of all the benefits and physiological functions provided by windows a view appeared to be the most valued by occupants and that almost any view was preferred to no view.

RECENT RESEARCH

The majority of research reviewed by Collins was produced by academics in areas such as health, architecture, education and engineering. From 1975 onwards research into windows began to be predominantly published in social and environmental psychology journals. Early research had already shown that humans have a preference for windows; that windows provide many benefits and that view is a key factor in this. So psychologists started to look at what constituted a good view and what effects a view had on health, well-being and productivity.

HEALTH AND WELL-BEING

Following on from the work of Wilson (1972), who had found that windows in wards increased patient recovery, Ulrich (1984) studied the recovery of patients in a Pennsylvanian hospital to determine whether patients would recover quicker with a view of nature. It showed that they had shorter post-operative stays, took fewer or lower strength medicines and had fewer negative comments on their notes, compared to patients whose view out was of a built environment. Although the study suggests that a view of a natural environment is more beneficial than one of a built environment, it should be noted that the built environment view was of a monotonous brick wall and can not be extended to all built environments; a bustling city street which would alleviate boredom may have produced more positive results. Despite this the study clearly shows the benefits of having a view and the effect the quality of a view can have on recovery.

Two major factors in health, be it recovery from a serious ailment or general health and wellbeing, are stress and fatigue. This area is of particular interest to environmental psychologists and has received the most research.

In much of the early research it was suggested that people had a preference for views of nature. As far back as the 19th century it was a topic of discussion and American landscape architect Fredrick Law Olmsted discussed the stresses associated with city life and the restorative effects that viewing nature could provide.

Ulrich et al (1991) tested the concept that views of nature would reduce stress. They found that findings from both physiological and self-report measures indicated that recovery from a stressor was much faster and more complete when participants were exposed to natural settings as opposed to urban settings. They explained the findings by referring back to Ulrich's (1983) proposed Psycho-evolutionary Theory. Ulrich's theory is, in very basic terms, that since we evolved in environments of nature we are biologically programmed to quickly acquire restorative responses to unthreatening natural settings, but have no such programming for urban settings.

Another popular theory to explain the same findings is that of Kaplan and Kaplan (1989). Their Attention Restoration Theory says that mental fatigue is a result of the effort involved in inhibiting competing influences. Nature does not need effort to get attention and is therefore restorative.

Whatever the explanation, research has consistently found that views of nature generally provide increased benefits in terms of our health and well-being compared to those of urban scenes. In 1998 Leather studied this concept within the office environment and found that a view of nature buffered the negative impacts of job stress, on intention to quit and had a positive effect on general well-being.



NULTY+

PRODUCTIVITY

Research shows that people with positive emotional states tend to be more productive and that positive mental states can be reinforced by providing people with their preferred environment, Wright and Cropanzano (2000).

Earlier research proved inconclusive as to whether a view out increases productivity. Hedge (1994) showed a view to have a positive effect on productivity, whilst Stone (1998) found a view to have no statistically significant effects on productivity, nonetheless did find it improved motivation and mood. However, one of the most recent studies on windows seems to be pretty conclusive in its findings. The Californian Energy Commission (2003) studied the effects of the physical environment on worker performance, looking at ventilation, thermal comfort, daylight and view. The findings about view were described as the 'most striking', with the consistency of the results suggesting the 'remarkable importance of view in worker performance'. A better view was the most consistent variable associated with improved worker performance with workers in a call centre processing calls 7%-12% faster and office workers performing 10%-20% better with the best view, versus those without a view. They also found that there was a high correlation between workers' reports of negative health symptoms and fatigue, and having no view.

CONCLUSION

This paper has given a very brief overview of just some of the research that has been done in this field. Many of the statements made are very general and it is important to bear in mind that factors such as setting, task and cultural and climatic differences can all influence our needs and preferences. You can't imagine wanting a view out when you are at the cinema, for instance. However, from this and other research not cited, it is possible to draw the following conclusions:

- Humans have a preference for windows in buildings.
- A major factor in this preference is the view out that they provide
- Views provide both psychological and physiological benefits.
- Views are beneficial in terms of health, wellbeing and productivity.

Windows play many roles within a building. When being designed, careful consideration is given to daylight, air, thermal mass, noise and glare. Each of these elements are designed in line with the best practice parameters that have been set in place with the aim to provide the optimum environment. The final role of a window is that of a view out, though shown to be an equally important factor in creating an optimum environment, this is not designed per se. If there is a particularly scenic view from the site an architect will make full use of it and it makes sense, that as we all like views, a building is designed to give as many occupants as possible a view

out. But a view is not designed; there are no parameters to work by. We fiercely protect views we already have from being taken away but we do not demand them in the first place. These imbalances need to be addressed and we as an industry need to play a role in that.

Proposals are as follows:

- Research view and daylight combined

As an industry we are actively researching, in isolation, daylight and its potential physiological and psychological benefits. However, academic research clearly indicates that there is a complex group of contributing factors, in particular 'view', surrounding our conventional source of daylight, i.e. windows. We need to start researching these factors collectively to get the full picture. This would allow us to take



NULTY+

a more holistic approach when designing with natural light and as such the research will reinforce and add weight to the argument for good natural lighting.

- Research parameters for a view

As lighting designers we regularly advise architects on the design of their windows in terms of getting the best daylight inside, while preventing glare. We do this in order to create the best possible environment for occupants by taking advantage of the benefits daylight offers and minimising the negative effects of glare. If we are happy to agree that a view equally provides benefits that we would like to profit from then we firstly need to gain a better understanding of the attributes of a view and define the parameters for good practice in view design, and secondly research what the best equilibrium is between the requirements for a good view and those of the other functions of a window. We need to understand what the optimum balance is between the negative impacts of discomfort glare and the benefits a view provides; when looking at the size, shape and positioning of windows we need to not only consider the daylight ingress but the view out. Only by taking this holistic approach can we truly create the optimum environment.

- Research pseudo windows

The evidence surrounding views adds weight to the argument for natural lighting and standards/best practice/BREEAM all encourage us to provide natural day lighting and views out. In most areas this is being increasingly adhered to, but the reality is that, particularly in offices, the cost of real estate will prevent the abolition of deep plan floors and there are also existing buildings to consider. We must therefore look at whether we can help to readjust the balance in these deep plan areas by the way in which we introduce light into the space.

We try to recreate daylight artificially and have spent time and money on new lamps and control systems to recreate, as closely as possible, the qualities provided by daylight, but with natural daylight comes a view with its additional benefits; can we incorporate this into the way in which we deliver pseudo daylight? Can we create pseudo windows that actually provide all the qualities and benefits of a real window?

- Should we put areas of higher vertical illuminance on some vertical surfaces in deep plan areas?
- Should that higher level of vertical illuminance be provided by a light box, perhaps with an image in it, perhaps a view of nature?

- Would a 2d vertical image supply us with the feeling of a view, or do we need to utilise video screen technologies to show movement, 3d images – maybe these are linked to cameras outside feeding us information such as the weather and time of day?

- Is a pseudo window too literal a solution that will not trick our brain, but that the qualities a view provides can be introduced in other ways? Or are the benefits a window and view provide just not possible to recreate artificially?

In summary, 'View' matters, but as Marshall McLuhan once said, 'A point of view can be a dangerous luxury when substituted for insight and understanding'.



NULTY+



MORE THAN **MEETS THE EYE**