ON VARIOUS WAYS TO INSIGHT

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Abstract

The contribution deals with methods rather than results. In addition to the conventional experimental scientific methods and the methods used in the humanistic sciences there is also the artistic approach to widen our insight. While less accurate it has a wider scope and might in cases be more pertinent to psychological problems which inherently are complex. The demand for reliability should not be neglected and the different methods might cooperate to check each other. Mutual acknowledgement is a condition for more comprehensive and more speedy results to improve decision-making.

In this contribution I am going to deal with methods rather than results. Even if this is not an invited paper it was suggested to me that I gave a brief contribution on this occasion and for various reasons I was unable to comply with the requirements for a proper scientific paper.

The Study Group A of the CIE is explicitly dealing with two items: Light and Psychology and their interrelation. The ultimate goal for most psychological research is to enable us to make decisions that lead to more satisfactory conditions. And I think this goes not least for the present study group. The technological development - also in lighting - is far ahead of us. We have unlimited technological potentialities but only a scattered knowledge of what is good or bad for us and of our real needs. In fact it is a very ominous situation when the choice is abundant and exponentially growing while the basis for the proper choice is weak and restricted. And this basis is partly our responsibility. That means that we are in a hurry.

One of the most highly esteemed methods also within psychology is the conventional scientific method, derived from the natural sciences, characterized by controlled experiments having the merit of being reproducable. Sometimes one could be tempted to believe that this is our only way. However, mankind has since the heathen past had many other ways of cognition and insight.

There is the just mentioned - by the way, rather recent - scientific method, there is the methods used in the humanistic sciences which cannot introduce experiments but have to rely on collection and interpretation of existing facts and very often on intuitive hypothesis that can be discussed and tested, accepted or rejected, but hardly proven in the sense of the natural sciences. Further we have the practical commonday experience and method of trial and error which probably is still our main source of cognition, even if it is a rather slow method. Finally there is the most developed and refined variation of this immemorial method: The artists gifted way of using his experience and insight and trained observation for refined or bold solutions or suggestions with a view to some deliberate effect.

I might define - in this context - the artistic approach as the use of ones own person as a recording instrument and an evaluator based on thorough and sincere training, criticism and comparison. It is the way a painter would work for instance. It is not excluded that the work takes place in minor groups with a mutual understanding, based on equality in training and in ability but not necessarily in prejudices. The work would normally result in - some times emotionally loaded - theories or statements which were open to contradiction and discussion and to checking by others.

Particularly when dealing with psychological matters it would be worth while considering an even more frank and frequent use of other methods than the more conventional scientific ones. In psychology we never - I repeat never - deal with isolated phenomena. They always take place in a complicated pattern of conditions, that vary immensely. The nature of the experiment is to isolate the parameters. We have to admit that our real and exact knowledge of the psychological interaction between simultaneous sensations or perceptions of various art is so far very restricted. We know that much that an interaction frequently takes place but we know very little for certain of the impact and the character of these interactions, even when only two occur simultaneously, and most frequently far more than two are active.

Facing this situation one would not - after all - think of the experimental way as the best way to handle problems of this sort.

I am not going to despise the classical scientific approach. The method has many advantages that have been abundantly proven by the progress of the natural sciences. In psychology, however, by this method we frequently get very accurate and reliable information on relations that never occur outside the lab. We

will find that we are tempted by the very merit of accuracy to attach too much credit to these experimental results when using them for practical decisions. Whether or not they are relevant or sufficient for the problem in question is suppressed by the impact of their scientific recognition. Or still worse: We sometimes find that the limitations set up for the experiments in order to carry them through are simply forced upon the practical conditions for which the results should be used (an example is the British Glare indices that can be applied only to a completely uniform illumination which therefore is ordered in spite of all reason).

I am very well aware of the fact that methods have been developed during the last decades that enable us to a fair degree to deal statistically with complex variations with a number of parameters. The development of the electronic computers has widened the number of data that can practically be treated within a limited time. But still, there is one thing that is far more complex and multitudinous - our psychological reality. What we need in order to deal adequately with this complexity is a device which inherently has the same complexity. We have got one such device - this tiny computer here! It has it shortcomings. We cannot controle the totality of input. On the other hand, in the artificial computer, we have the painful recognition that lots of relevant input is always missing. Which defect is the worse? And still: We <u>are</u> in a hurry. We cannot afford to neglect the fastest and most expedient way of <u>improved</u> even if not <u>proved</u> knowledge. We should not reject any of the methods and we should try as far as we can to let the one check the other.

This is by no means an invitation to reduce the demands for reliability in our research. The deviation from the conventional scientific methods should not lead to reduced seriousness. And in that respect the method is far from being the easiest one. In the present case the essential thing is the training of ones ability to see (by the way, a rather rare ability with a great many lighting people). This well developed and established ability to see is a condition for the boldness to contradict the commonplace short-sighted conventions that govern so much of the lighting practice. And this again is necessary to introduce real progress.

This approach brings the architects into the picture. Architectural education and practice are vividly changing and developing during these years and the problems of research within the profession is under discussion. In the Copenhagen School of Architecture we are a small team of architects withing the lighting labroatory trying to introduce this way of working. In addition we are developing a method for training the students very

throughly indeed in the ability to see, particularly in relation to the light and its effect on environment. So far we cannot establish the final results, as this last program is rather new, but we have not lost our faith in the scheme and our expectations that it will lead to pertinent improvement of our handling of light.

Let me express myself in an other way. As we need to get to the most comprehensive and most reliable knowledge in the shortest time we are desperately in need of communication. Communication between research-workers and lighting practitioners. Between the scientific workers and the artists. Between psychologists and architects.

The first condition for communication is mutual acknowledgement. The next one is a sincere interst in the other of working. By pooling our results and ideas - and discussing them and testing them mutually - we may come faster to practical statements that may be workable even if not fully confirmed. No scientific result is in fact definite. The differences as to reliability are only differences in degree. The more comprehensive an ascertainment has to be, the less accuracy can be expected. The narrower, the higher the accuracy. Practice need fairly comprehensive ascertainments that include as many of the relevant factors as possible. Consequently, for the moment being we cannot afford to demand an ideal degree of accuracy as we would thereby loose in relevance. Or simply be late.

In order to briefly get away from the abstractions in the blue sky I may take one single example. In Denmark was during nearly fifty years an architect, technician and artist, named Poul Henningsen, working. His main occupation was with lighting. In the mid twenties - fifty years ago - he put forward a rather comprehensive theory on the artifical lighting of interiours in which he pointed out not only the main problems to be solved but also a gross suggestion for their solusions. It deals with the light flow in the room, the illumination not only on a horizontal plane but also on vertical ones and so on. It defines the different grades of shadowing and deals with contrast grading as well as brillance and glare and with the colour of the light. This was not based on scientific research but on his ability to see and judge, which is an artistic ability and training. I need not point out to you that most of these aspects have only lately been recognized and treated scientifically by others. And still, they have been used by alert Danish architects - to their best ability - long before they were taken up by the conventional lighting experts, who - by the way - have not invalidated his early ascertainments.

I am sure many of you will find that this is a commonplace state-

ment and nothing new. I have brought it up not because of its news value but because it represents a mental problem that might have an unfavourable impact on the progress in the field. The very high esteem in which the classical experimental method is held - and for very good reasons - is tending to develop a certain feeling of inferiority in that group of persons that either by choice of by force of their situation try to work along the other lines. This is not a fruitful situation and what I am pleading for is a sincere mutual acknowledgement and understanding and an open-minded cooperation between the two ends of the range.