Promise and Reality – for three times

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Promise and Reality – such a clear and straightforward problem mentioned in the conference title makes one look back and reflect on the subject. I have distinguished three groups: teaching of CAAD, databases, AI tools in designing. All the conclusions drawn in the case of each problem, in fact, are to broaden and perfect the forms of education of the youth and students, of job circles and the local ones.

Promise and Reality – for the first time.

Teaching of CAAD should definitely keep up with the development of possibilities and use of computers. CAAD teaching programmes are the most frequently changed in the course of studies. There is nothing strange in it, as the development of hard-and software and new applications stimulate one another. Therefore, the teacher – creator of teaching programme – plays here the vital part. It must be an especially competent person – able to suit the programme of CAAD subject to students’ knowledge, to the present market demands, and make the computer play the inspiring role in computer education. Wiser with verification of promises, the teacher can modify the process, way and contents of teaching through existing applications.

On December the 9th, 1999 an interesting lecture took place at the Architecture Institute of Bialystok Technical University. Professor Matalasow pointed out the accordance of the use of the tool with the real designing need. On the basis of a student work he showed that animation of computer town model from the point of view of a “drunk helicopter pilot” is sometimes a misunderstanding. Such a presentation can, definitely, have its use in a computer game. Model of a town, visualising project enterprises, should be looked at from a man’s point of view. Therefore in this particular case the proper way out would be to tape a video film as the background and afterwards to fit in the sequence of computer model of the object designed. It is surely quicker, easier and more “realistic” a work, considering the still present imperfections of computer techniques used to reflect the realistic environment.

My experience in teaching CAD, spreading in time, is not too wide, though. It concludes in teaching programmes aiding the process of project drafting (AutoCAD). At ECAADE Conferences didactic
teams from different academic centres present the results of their didactic experiments. I hope that, among others, learning from them, I would be able to create and apply my author’s programme of teaching CAAD. Individualisation of studies, carried out at the Architecture Institute in Bialystok, makes such experiments easier. It is my intention to broaden the students’ knowledge in the field of the possibilities of application of fractal geometry and databases in architectural designing. Changed programme of mathematics teaching and the help from the members of ECAADE allow me to believe that this experiment will be initiated.

**Promise and Reality – for the second time.**

Databases, and especially these of regional features, are of my special interest. It was them to help in creation of present day regional architecture. Little interest from the part of designers environment and conservation services in the use of data bases results partly from the fear of the unknown tool (among the older generation) and educational insufficiencies of the younger generation, the more computer friendly one.

There is no need to prove that the quality of environment is closely linked with the quality of life. Polish integration with the European Union makes one look more closely on the environment protection and its shaping. In Poland negative changes, especially of the not-urban landscape, are still to be observed. There is an urgent need to create methods of a suitable shaping of landscape and its protection. In countries – members of the European Union the matter of a balanced development is combined with the protection of natural and cultural environment. That is why such programmes as “Strategy for Rural Europe” by experts from ECOVAST (European Council for the Village and Small Town), or LEADER – a program stimulating local initiatives, coordinated by the European Agriculture Commission, are created. In Poland, entering the “great Europe”, actions leading to the unification of the law have been taken. It is also a very important thing to initiate and to join the programmes that aim at cultural resources protection through activisation of the local circles. Recognition of cultural resources, their documentation and access to them becomes an important matter. This problem is closely linked with education, in the broad meaning of the word. It is going to concern local self-governments, commune services, and the training of experts – advisers. Data bases will be used both as documentary, training materials and as a basis for the development programmes. Polish government agendas have set priorities for constructing multimedial databases of cultural values. Hence the vitality of the matter.

Permanent education is a vital conclusion in the case of getting to know the possibilities of databases. It should be carried out at schools and universities. It is just the right time and place that one should get acquainted with the rules to create data bases, their aims and possibilities of their use in the subsequent career life.

**Promise and Reality – for the third time.**

The development of CA, GA, fractal geometry and other mathematical tools was caused by AI study. This has also resulted in their application in many fields of knowledge. It seemed that it was only one step to application in designing. Taking a closer look at the problem it has turned out that as far as architectural designing is concerned, such applications are not a simple matter. Difficulties appear at the stage of a language of the objective description of the architectural object. The use of mathematical tools becomes possible after defining the mathematical alphabet of the object description.
Table:
Modernisation the elevation of a house in Narewka, Box-Counting Dimension

Figure.
Box-counting grids placed over the elevation of a house in Narewka (Poland) before modernisation (left) and after modernisation (right).
Without such an objective description computer-aided designing will remain on the level of aiding the drafting process and visualisation of plans.

Carl Bovill (1996) described the potential ways to use fractal geometry in designing. My first attempts to use fractal dimension to examine objects of regional architecture did not give unanimous results. Further measurements showed that the method to count the box dimension can be used to state the so called national regionality. It does not, however, allow to describe the local one. Next attempts to examine the architecture objects with the help of counting their box dimension proved this method useful to evaluate the quality of modernised facades of village houses. Comparison of the box dimensions of the facades before and after modernisation makes it possible to state if the modernisation plans have been made properly. The growth of the box dimension confirms the correctness of the suggested modernisation changes. The results of examination are shown on the basis of materials from semester project. The designing task was to work out the rules to shape the frontage of a village street and the further use of these rules for a given part of the street. Pictures of facades in 1:200 scale were used for measurements. The box-counting dimension of the facade was taken before and after modernisation (Figure). The results of the measurement are shown in the Table.

Reality verifies our too great expectations of computer technique. But these are the great expectations that allow us to make the step forward. And it does not matter if it is a big or only a small one, if it is progress or maybe a mistake. Therefore the forum plays such an important role. Not only for me are the ECAADE conferences the place where the exchange of thoughts, remarks and verification of old and creation of new ideas take place.

References


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