The Ecology of Habitat or shortly “ Dwelling ecology”,
belongs internationally to the, so called “Man -
Environment” sciences. Studied, here is the
interrelationship between man and his built environment,
especially that environment in which he lives.
These Man - Environment sciences are proceeded from the
development of the social sciences in the last thirty years,
like sociology and psychology in which a rising interest was
growing for architecture generally and more specific in
dwelling-architecture because of the relation of man with
the physical space in which he lives.
Also there is a growing interest of architects in the
results of sociological and psychological research in human
behaviour and human meanings in the built environment as far
this information is of importance for the influence people
have on the environment.
Dwelling ecology is a part of the Household sciences. Not
only because she is taught within the School of Household
Sciences in our university, but because all sciences in this
School share the same basic philosophy that is, to start all
scientific work form the point of view of the consumer.
Translated into the terminology of the Dwelling-ecology the
consumer is the dweller.

Basic philosophy of the Ecology of Habitat
The term ecology is inspired in the first place by the human
ecology theories of Park, Burgess and Mc Kenzie, of the
Chicago school in the twenties. In this way there is a
similarity with the ecology of plants and animals, with the
distinction quoting Mc Kenzie: "that human beings can choose
their habitat and modify it". Later on the term is based on
the original meaning of the Greek word oikos = "house"
understood by Xenophon - a pupil of Socrates - as an
autarchic society with a household of man and their
resources.
The highest priority of the Greek oikos was the well-being
of the household. The term "habitat" comes from Latin and
means "settlement" in the meaning of human settlement: "to
live or dwell on a certain place". But although it seems
that expressed here is the environment in the most concrete
sense, the house, the street, the garden, etc.; shortly the
perceptible characteristics of the address, in the dwelling-ecological philosophy it means more. It is the whole environment taken in possession by man.

The Ecology of Habitat as stated before, studies the interrelationship of man and his own built environment, in which the influence of the built environment on human behaviour is related to the human influence on the built environment. The main point of view for a dwelling-ecological approach is the dwellers one by the conviction that the dweller has to express the way in which he wants to live, which makes him co-responsible for the environment, now and in the future.

One of the basic definitions of the Dwelling-ecology is the answer to the question: "What is meant by to live or dwell". The expression of answer runs as follows: "to live or dwell is a kind of residing on a place (habitat) from where one can return after the exploration (home coming)". As a matter of fact, scientifically seen, the dweller is confronted here with the problems of architectural design on the one hand and research of human behaviour on the hand. Both disciplines will have to be integrated where the "making" is concerned and also the evaluation of the behaviour of the people in the built environment.

The environment, taken in possession by man, belongs to the most fundamental philosophy of the Dwelling-ecology. The place, what is called habitat as a dialectic process of exploring the world outside, where one comes home, again and again, is not to compare with any other place. As a place for identification, it is unique and therefore also a place for regeneration.

Why emphasizing the process of taken in possession. The argumentation is that progress in building and housing, in which the solution of problems has become a high priority in our technocratic society today, is forgotten the basic human needs.

The study
All aspects mentioned before should be the spiritual luggage of the dwelling-ecologist and it is clear that they should be able to operate in practice.

Knowledge of design and design processes, construction and building processes are necessary for including restrictions and possibilities in the formulation of requirements in the
The main part in this field and the most important one is the design process, because social, psychological and functional requirements have to be translated into an architectural form. If all the requirements are clearly and soundly formulated in the assignment they have to be recognizable in the final design in such a way that, after finishing the object, evaluation can take place.

On the strength of our ecological point of view, the dwelling-ecologist has to be a "go-between", to be in charge of dwelling-ecological research about human needs and human behaviour. He or she also has to be in charge with the process of making people conscious about their own responsibility, to restore the lost dialogue. The dwelling-ecologist also should be able to criticize and evaluate designs and plans.

For this we developed special aids for didactical purposes. The didactical aids are developed to bridge the gap in translating human activities into three-dimensional space. In architectural design the three-dimensional presentation is mostly given in two-dimensional drawings and on scale. We learned from our experiences that also architects do not have special imaginations, especially in more complex building situations. Although they are trained in this field, they work within a certain frame of self-educated reference. Each approach of new spatial possibilities is for them also an experimental expectation with result of unexpected reality in human behaviour. This would have a better result if, as stated in the ecological philosophy, a good information about human needs and requirements is challenging in design process.

Therefore our students are trained with the help of these didactical aids in thinking structural about human activities and the spatial consequences, continuously in three dimensions. From space on scale and reality.

The structural-model method
For practical and didactical reasons we developed an instrument which is called the structural-model for house and house-environment.

The model is built up in a number of phases:
1. Making an inventory of the activities which the inhabitants expect to carry inside and around the house.

2. An analysis housing activities.
   Investigations are made into the exact space which is needed by each activity, and under what conditions an activity has to be carried out.

3. The relations between the activities.

4. Translating the scheme of relations into spatial dimensions
   The scheme for relations is principally the programme on which the architect bases his first design. This draft design is basically needed for discussions. Consultation is necessary to make a choice and to make compromises.

Working out the phases 2 and 4, for instance, we use elements (walls and furniture) to a scale of 1 to 20. Plans can be developed now, which can be discussed and revised again. This scale material is also used to judge plans.
Possibilities, consequences of advantages and disadvantages become clear.
The method fits indirectly with the housing experiences of the people themselves.
To complete the model judge the plan is necessary to imitate the model on real size.
A special mock-up system for this purpose has been developed, in which activities can be simulated by acting roles.

Both, the construction itself and this kind of simulation games in the completed model contributes an insight into the structure and the possibilities to use the dwelling.
Because of the fact that the majority of people are unable to read drawings, these kind of aids are very helpful.

A comparable structure-model can be made for the wider house-environment. Because the interdependency of dwelling and the environment, it is obvious that the application of structural-model methods can be worked out together in the same time.
We also use scale elements in the study of house-environment. The reconstruction of a such model on real size does neither seem possible, nor meaningful however, to meet this need, in our department a substitute with an instrument called the "Entheskoop" which gives pictures of urban models
on scale with a suggestion of reality. The "entheskoop" consists of very small lenses with a t.v. camera behind it. One lens functions as the "eye". This eye is placed in the scale model the picture which is "observed" is projected on a t.v. screen by the camera. Dependent on the condition of the scale, the projected picture seems almost true to nature. If for research reasons, a picture is needed which has to be true to nature as possible, material is used for the model which is covered with photographs of the facades.

By composite photograph every desired application of material can be reproduced. The entheskoop is, as mentioned before an aid and a help for other methods such as models on scale drawings, etc.

Mock-up
The Mock-up was developed in 1960 as an aid to scientific education for building full-size structural models. (floor plans and houses).

Description of the system
The Mock-up consists of hollow wooden blocks or "bricks" which can be piled up. In the blocks there are holes with plastic tubes. The blocks are connected by tubes of small lengths.

For the construction of windows and doors there are frames, which can easily be connected.

Dimensions
The whole system is based on a module of 12.5 cm (≈ 5 inch.). All sizes must be rounded off to a multiple of 12.5 cm, preferably to a multiple of 25 cm or 10". The height of the module is 25 cm = 10".

Parts
Outer wall 25 cm thick whole brick
   Three-quarter brick
   Half brick

Inner wall 12.5 cm thick five-quarter brick
   Whole brick
   Three-quarter brick
   Half brick
Window frames width 78 mm thickness 50 mm:
lengths 50, up with 25 to 250 cm.

System Floor

Development
Working with the Mock-up made it clear that covering the
room with a ceiling was essential in order to establish its
exact dimensions.

Purpose
Pointing out the differences in heights of rooms and so
learning to see and know their exact proportions.
Having a possibility to construct storeys.

Use
The elements are made up of beams with floor-boards on the
one side and a chipboard ceiling on the other – the bottom –
side. This makes it possible to build the storey on to the
elements. On the side of the ceiling outlets are fitted
which on the headside are connected by means of a plug.
The elements gear into one another at the sides and at the
heads, by which large spans and free spaces for balconies
and stairs are possible.

Functional schematic furniture

Development
When the Mock-up was first used it was though desirable to
furnish the models constructed with schematic furniture.

Purpose
Furnishing schematically built structural models for the
study of the dwelling, which is part of the practical
training.
The furniture serves to determine the space necessary for a
certain function and should not attract attention by shape
or colour.

Use
After building the structural model the rooms are furnished
on the basis of the design.
This furniture consists of a number of standard elements
with which various combinations can be formed.

When the model has been built and furnished a simulation
gamer is played, in which a feedback takes place to the
starting point of the method, viz. the functioning of the
activities and their interrelation.
Please can you start the video ...............