

Abstract:

Living Quality and Thermic Optimization (Low- or Plus-Energy Housings) from a Housing Psychological View

Dr. DI Harald Deinsberger-Deinsweger
WOHNSPEKTRUM Housing-Research, Analysis and Consultation
Housing Psychology, Building Biology, Housing Architecture
Nikolaiplatz 4/III, 8020 Graz, T + F: + 43 - 316 / 774340
office@wohnspektrum.at, www.wohnspektrum.at

The starting point is formed by the following thesis:

Measures to increase the efficiency of thermal energy will only be accepted by the majority if thereby the living quality is also increasing or at least will not be decreased.

Where is the problem?

Living quality is on principle the result of several factors. Some of them can almost automatically be reconciled with measures of energy optimization, like the thermal comfort for example, which can be supported by an appropriate thermal insulation.

But where are such synergies not given from the start and where are even contrary objectives recognizable?

In order to mention for example one specific problem: the contradiction between a constructive form which is compact, highly insulated, and technical optimally ventilated on the one hand and the human needs for openness, for contact to the outside, for varied sensual stimulations, for interaction and self-determination on the other hand.

If energetic concepts are in contradiction to human needs their failure in practice is foreseeable. This means that the best ideas and innovations will not get much further than to a few pilot projects, if the living quality theme will not be put into the centre during the course of planning housings.

The aim is therefore quite simply to accommodate energetic optimization with living quality.

What means living quality from a human perspective?

The quality of living or housing is determined by a large number of different facets. In order to comprehend the complexity, several perspectives are to be opened.

(a) The human scientific perspective: Generally spoken this perspective consists of psychological and physiological facets. Thereby all the **human housing needs** are to be mentioned, which are altogether **defining** the term "**living quality**" at first.

(b) The systemic perspective: Here the whole relations between a human being, his habitation and the environs are put into the focus. All the (possible and real existing) internal relations and interactions as well as the dealing with the influences from the environment are ultimately determining the **degree of living quality**.

Briefly speaking, the better the relations between human, habitation and environs the higher the degree of living quality.

(c) The holistic perspective: A residential building is always affecting the whole human being, his perceptions and feelings, his possibilities of action and evolvment, his healthiness, his physical, emotional and mental well-being.

This is the crucial point: Housing quality must not confine itself to one or two aspects, but rather has to give consideration to the whole complexity in order to plan and build fit for human habitation.

The **crucial question** is: Until which point will thermal optimizations support or improve the quality of living? And: Under which circumstances will thermotechnical improvements even lead to deterioration of living quality?

The relationship between **living quality** and **thermotechnical optimization** could sometimes be synergetic but sometimes also divergent.

An improved thermal insulation for example is protecting from coldness (and heat), whereby the needs for thermal protection are fulfilled. Furthermore a well balanced thermal economy is supporting the living comfort (protection of healthiness and well-being).

But if a human being is being isolated from his environment more than essentially required for fulfilling the needs for protection, his living quality will be decreased again. An excessive insulation can not only impair the living comfort but also the psychological and physical healthiness. In an extreme case it could also endanger life itself. (Insulation means in this case the total separation from the environment.)

Ultimately we have to consider, that the thermotechnical optimization has primarily to fulfill one protection function (protection against coldness or heat). This represents of course one of the most important protection functions but by far not the only one. In addition to that there are further needs for protection and moreover several other human needs which are to be fulfilled in connection to the housing theme.

In order to explain it by means of one example the needs for sensory contact could be mentioned: These are including not only optical but also acoustic, olfactory, tactile, haptic and kinaesthetic perceptions. Experiences are on principal multidimensional - in a way, that always several senses are involved and that each sense organ has got plenty of dimensions, nuances and varieties of perception and sentience.

Similar is true to the so called "needs for control" or in other words the needs for self-determination and regulation. These are concerning for example the regulation of room temperature, of incident solar radiation (direct and indirect sunlight) and fresh air supply etc., but also the opening and closing of windows and doors, the moving outside and inside, the contact to the outside and many other factors more.

On principle it is all about the extension of space for perception, movement, operation and experience – in total nothing less than the living space of a human being.

How can we reach the aim of optimal living or housing quality (as mentioned above)?

In order to find out this target point at all, a detailed analysis is required which is investigating the respective housing project or concept including the prevailing circumstances.

This **analysis of housing quality** (= Wohnspektralyse / living spectralysis) founded on a scientific basis is comprising the humane quality of an apartment, a building, or a whole housing area. With that any possible deficiencies or problem areas can be discovered.

Founded on the results of analysis potential solutions can be developed which are providing the basis for generating the best possible living quality of the respective housing project.