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FROM QUANTITY TO QUALITY

DE LA QUANTITÉ À LA QUALITÉ

During the last century, city planning was mostly orientated to a quantitative solution of the problems. Thus resulted an inhuman city environment and an inhuman traffic system. As will be demonstrated in the following paper, the key-factor for future design of traffic systems as well as for the repair of existing cities to obtain human conditions, will be quality. Human behaviour depends on the quality of the environment. If this quality has a high level for car traffic, as it is today, it results, that most of the inhabitants will be driving car. If we offer, to a certain extent, a high level of quality for pedestrians, people will walk.

Durant le siècle passé, les solutions aux problèmes urbains ont été fréquemment orientées vers la croissance du tissu urbain. Un environnement urbain et un système de trafic urbain inhumain ont été la conséquence. Afin d'améliorer la qualité de la vie et de l'environnement dans les villes, il faut en concordance avec la réparation de la ville augmenter dans l'avenir la qualité et non la quantité des systèmes de transports. Le comportement de l'homme dépend de la qualité de l'environnement. Une haute qualité d'environnement pour le trafic automobile provoque un trafic automobile intense. En augmentant la qualité de l'environnement pour le piéton, on peut provoquer, en respectant les limites de distance, un trafic intense de piétons.

Introduction to the problem

The influence of "Newtonian" natural science in the last century on city planning is visible in new city structures as the result of the victory of the quantitative age over historical city structures. One of the most effective and efficient tool in realizing quantity was the modern traffic system, which increased speeds increased the number of transported people in the mass transport, increased the number of driven kilometres. The "individual traffic" mode,

the car, has become a mass-transport system.

Together with the believe on the unlimited economic growth this system is defined as technical progress. Everything seems to be measurable. If the system don't react in the expected measurable terms (which happens more and more since the people don't behave as they should behave following the calculations of the engineers and city planners), this behaviour is classified as unreal since the reality of planners is based on quantity. If the human behaviour don't follow the expectations of the model of city planners and traffic engineers, this behaviour is explained as unreal.

Behaviour is the result of "quality"

The exodus of million of people leaving the cities every weekend, is in this case the unreality. Since all of the planners, traffic engineers and managers do the same, they are also unreal. As the results of the today "society of quantity", cities, in former times place of living has become places of uniformity, stabilised by concrete, asphalt and efficiency based on economic terms. In quantitative terms everybody has what he needs due to the proper and careful quantitative planning. But what are the people seeking for, when they leave this proper designed places as soon and as often as they can to spend as much time as they can devote in places where there is no artificial quantitative man made environment.

On the other hand city tourism has become a boom for foreign visitors in the last years. What are this people seeking? It is again the quality offered by old cities, which makes the people moving. Quality makes cities attractive.

It is always the quality and not the quantity (quantity can create quality, but must not), which influenced the human behaviour in positive or in negative manner. The sensation of human being is dependend on irritation. Quality means positive irritation and missing quality creates negative irritation. Since nobody is interested to be negative irritated, but everybody tends to be positive irritated, this differences in quality make the people moving.

It is very interesting, that architects of sky-scrapers and uniform blocks does not live in this places. They use their money to leave this places as far as they can to live in a nice one family house, in a nice garden, which means high quality compared to that what they are very often creating.

The same can be said from traffic engineers by earning money from creating motorways, public transport, but not spending their holidays near to the motorways not using the public transport, but using their money earned from planning this kind of infrastructure to leave as far away as they can from this systems. Poor quality based on high quantity is very

often used individually to maximize the quality for the single person.

A reason for this behaviour of people responsible for city structures might be, that quantity is much easier measurable and easier to control compared to quality and this people are afraid of being asked for responsibility which cannot be controlled on a very simple and low level. The lowest level is the quantitative one, where city planning and traffic planning of today (in general) is very often recognized.

It indicates that the city or a part of it has not sufficient quality, if the people leave it as often and as soon as they can.

We can now summarize, that city planning based only on quantity has created unhuman environments and city structures as well as unhuman parts of traffic system. The human being flee this kind of man made structures by using very often traffic, the mode, which destroy the quality the people are seeking for at the end of the trip. 100.000 of people are leaving the cities during the summer holidays seeking for high quality in recreation areas where the same people destroy this quality they are seeking for with their own cars.

The unsolved parking problem in cities has destroyed the existing quality of public space also in old cities.

How to measure quality?

Quality cannot be measured directly, quality can be recognized by similarities. 1975 Walther published his observations of different time estimations by walking and riding a bus /1/. Figure 1 shows the overestimation of time with increasing walking distances. Overestimation of time can also be defined as decreasing attractivity with increasing walking distance.

In this work this effect was described as so called "subjective time estimation". But what Walther has published by calculating the differences in time perception, must be the difference in quality between walking and riding a bus. If human being react on quality we can observe the behaviour of the man to recognize different qualities.

Theoretical approach - empirical results

Time perception as observed by Walther can be explained very well by using the individual body energy for walking or riding a bus. The difference in energy consumption (body energy) used as sensation explains the empirical data of Walther very well. If the man has therefore a choice he choose from the individual point of view the qualitative best kind of traffic mode. If he has the choice between

walking and riding a bus he will take the bus, if he has the choice between a car and a bus he will choose the first, if he can be sure, that he get a parking place at the end, which is a part of the quality of the trip.

Since each trip is related with energy consumption each kind of movement of the man reduce in general the quality, if it is not compensated by positive irritation it means quality from outside. We have therefore to take care on "positive" and "negative" quality in trying to explain the human behaviour in the city or traffic system. If high quality has an influence on the man a nice surrounding which can be either high city quality or a nice environment, must be observable on human behaviour.

On this basis Mr. Peperna, a student on my institute, was given as his master theses the problem to observe users of public transport a) in an ordinary motorized environment and b) in an environment, which we called "high quality environment for pedestrians". The results are shown in figure 2. The difference between the ways within an environment of bad quality to that of good quality was about 73%. People in Vienna are willing to go 73% further, if the environment and surrounding of a stop of the public transport has "a high quality" for walking. It means, that the area covered by a high quality surrounding of a public transport stop is about 3 times greater compared to a qualitative bad environment. The most negative effects created by traffic system in cities are parking, noise, dust and airpollution. The most negative effects from the city structures come from poor city planning, uniformity, big blocks, straight streets, wide roads, intersections, etc.

Application for city planning

The nature of the mankind is inclination to high quality. So the man has no chance to escape from the car if we store the cars in the same kind as we do it today on the street. The first step to higher quality is therefore the replacement of cars from the surface to garages. The distance to this garages must be not shorter than the distance to public transport stops. Otherwise the higher quality of the individual traffic will prevent people from using the public transport. The effect is: Higher quality for all kind of other movements like walking, cycling, etc.

So the people, which are important and responsible for city construction and destruction, can see on the ways to the garages how bad the architecture and structure of modern cities can be. Such a system is a self stabilizing system and quality is intruding by selfregulation mechanism again.

The people will become aware how poor their environment is, how few possibilities for social contacts are available, how poor the environment of the blocks is for recreation, how

poor the uniform supermarkets are compared to the kindness of small shops, etc.

This steps lead definitely to a new city structure as a place for living and not as a place for sleeping-, working- and consuming-machines.

European city history is based on quality. City planning and traffic planning oriented on American models in traffic (motorisation) and international models (charta of Athens) in city planning has let together with the higher speed of the modern traffic systems to the unhuman Metropolis, where a huge amount of quantity is not able to create the quality of small french, english, german, austrian or italian city built in the Middle Ages. To walk 10 minutes in one of this Middle Ages cities has for everybody the experience of much more quality compared to hours of driving through new Metropolis without any individual face. Individuality means also quality. In modern cities nobody knows in what a city he finally was, if he don't talk with the people. This can happen in "new quarters" of Madrid, in Paris, Vienna, Hamburg, Munich, London, etc.

Quantity leads to faceless cities, if it is not connected with quality. The effort for planner and much more for politicians to design cities of high quality is uncomparable greater than to continue the quantitative way of city design. It is also much easier to make money on the quantitative way instead of the qualitative way. A single man, if he has the possibility, tend to optimise his quality also for the price of a minimum of quality for all others, for the public and the society. As long as this is possible, we will not be able to improve the quality of our cities. In cities of the Middle Ages people where able to subordinate this individual optimisation under the quality for the society. So they where able to create qualitative city structures for all people.

The high speed of the modal traffic systems move the people from one place to the other place and they don't feel responsible for the city or the environment. The television in addition feed is a contribution to unreality. So they are not aware of the real world going on around them. They have only to work to produce and to consume, to fullfil the needs of a quantitative society. They have not contact with the ground since they are moved on wheels to fullfil the needs of a quantitative oriented traffic system. It is very difficult to stop a car by standing on the ground upright like human being was. At least as difficult is it to come back from the quantitative to the qualitative age in the city planning.

Literature

- /1/ Walther, K.
Die fahrzeugäquivalente Reisezeit im öffentlichen Personennahverkehr. Verkehr und Technik, Heft 7/1975.

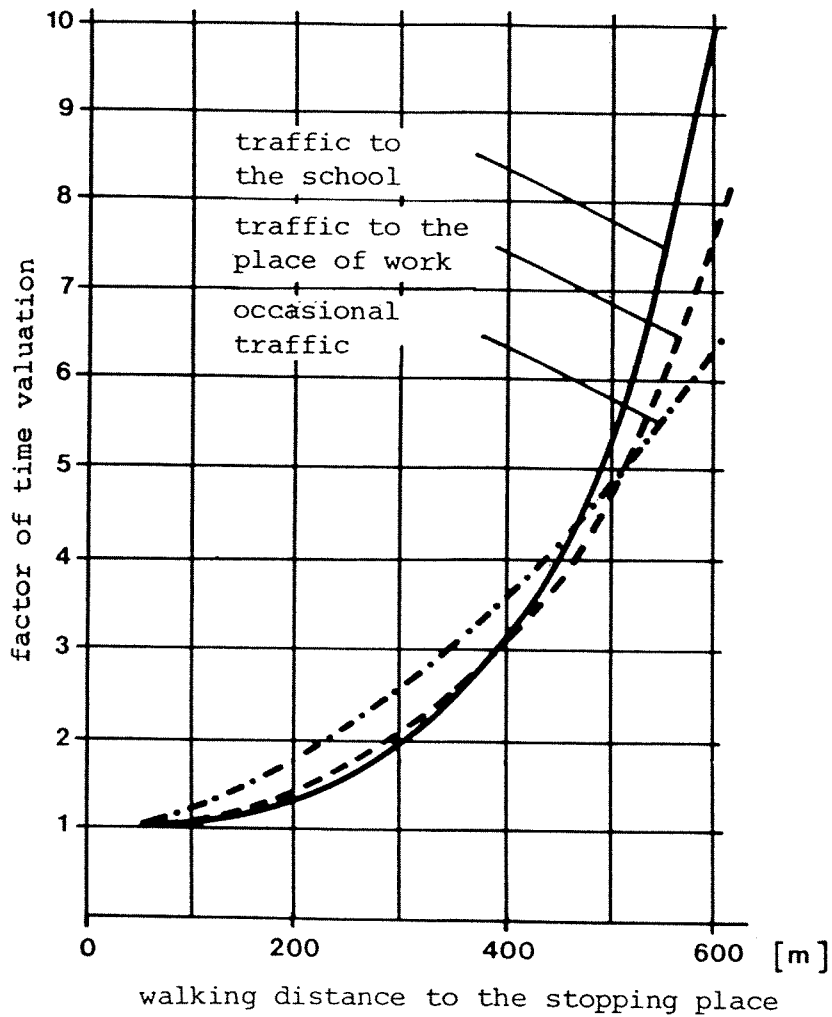


Fig. 1 : Valuation of the walking time to the stopping place
 The walking time is felt (subjectiv) multiplied by this factor in comparison with the driving time.

Source : /1/

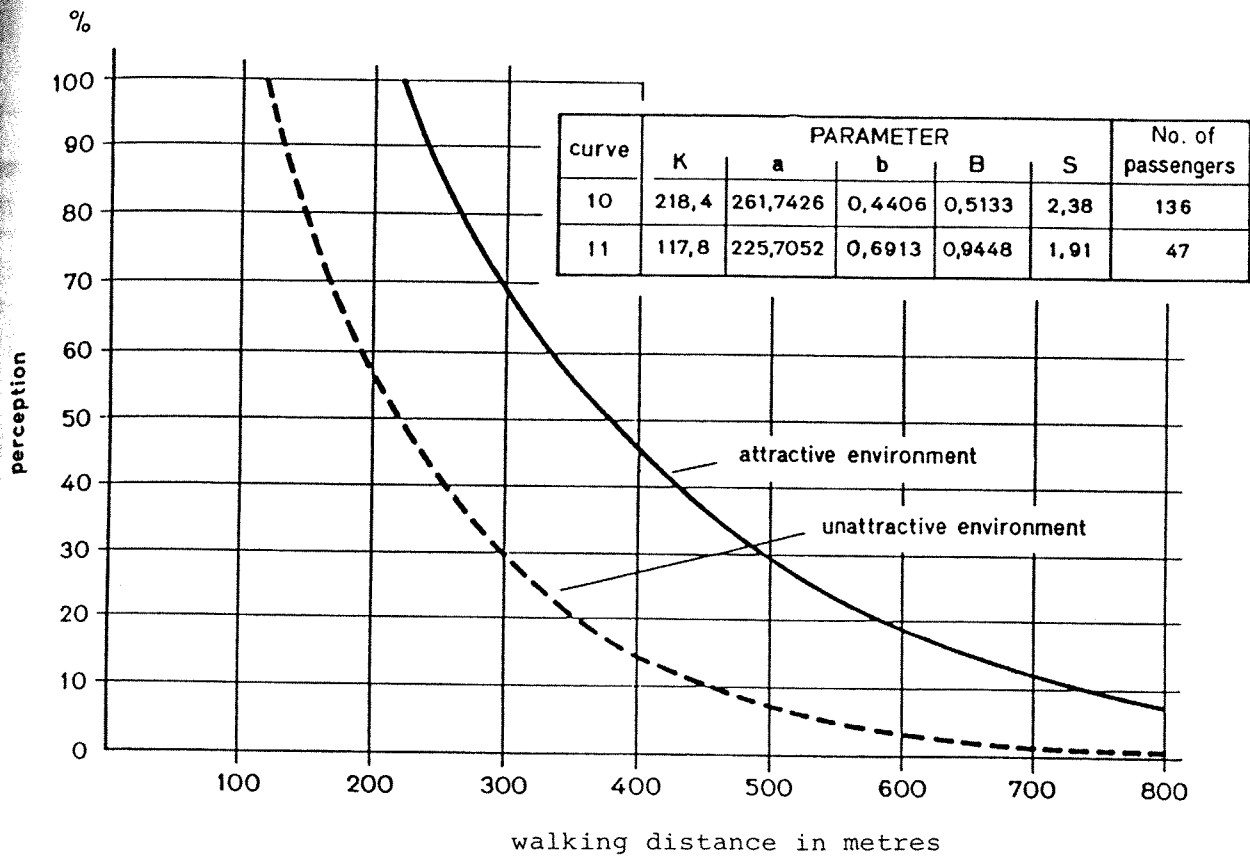


Fig.2: Influence of municipal structure on perception travelling aim: traffic to the place of work, free alternative means of communication

Source : Peperna, O.

Die Einzugsbereiche von Haltestellen öffentlicher Nahverkehrsmittel im Straßenbahn - und Busverkehr. Diplomarbeit am Institut für Verkehrsplanung der Technischen Universität Wien, Mai 1982.