

Architecture of Time

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Perception of time is a truly abstract concept, but by exploring relations between newest research of neurology, and study of cognitive psychology, we can learn how to offset its rules improving urban architecture. By doing so we would also greatly improve and upgrade the commuting system within urban areas.

By Karolina Rzeznik



COMMUTER

RIGHT A scale model of Beijing, 2007.
Image: Getty



ABOVE Music Staircase in Sarajevo
Photo: Irfan Redžović

“Designers thus have remarkable power to affect the perception of time...”

-P. Bosselmann

The daily commute to work is nowadays the subject of intensive research and discussion as it affects us all, making a substantial impact on our emotional balance and satisfaction. We make the choice between personal growth and short and easy commute. Travelling to cities situated as far as 200 miles away, may cost us a certain amount of discomfort, yet equally often we find it work the risk. To find an answer to that, we are continually developing technologies which could make the commute easier, faster and safer. An excellent example is the rapid evolution of the railway, which statistically appears to be safer than a traditional car, not only for commuters but also for nature. But not less important is that we give a meaning to the time spent during travel. Lack of purpose is often the main trigger to problems of mental wealth. Study of languages, reading a book, finishing assignment- this all could be a great way to use the time we have, on the way to work. And here again it appears a train is more suitable than a car, for the simple reason that driving cost too much of our attention. Therefore, a progression to railway technologies could be one of the solutions to ease the stress of long-distance transportation between urban areas.

But what about the movement of crowds within the urban environment? The number of cars owned urban dwellers is constantly increasing. Towns are short of parking places, while traffic jams become to be an everyday part of the urban landscape. Also, heavy smog is affecting residents of large and smaller agglomerations. And we could find an appropriate solution to the last issue which could be an electrically powered car. Despite its ecological value, it doesn't solve any of the previous problems. Under the circumstances, vehicles usage reduction could appear to be the best solution, and that requires persuading society to reconsider using other modes of transportation. An obvious way of approaching the task is the promotion of a healthier lifestyle and ecological awareness. It is unquestionably the right way of confronting the issue, yet being a designer means also being able to create an environment around us. That indicates paying great deal of attention to human perception of space and its impact on social behaviour and individual emotions. By exploring relations of science and neurology to the way we perceive our environment, we could learn how to manipulate experienced sensations.

Perception of space is essentially a subjective

experience occurring in a particular time and place. But is it enough to understand it only through our visual senses? After all, it is the time that determines the space. Influence of light or shapes has been well-known to the world of architecture over millennia. However, the role of time perception has been underestimated in term of urban architecture. Peter Bosselmann approaches with a statement: “Designers thus have remarkable power to affect the perception of time by arranging objects in space, by setting dimensions, designing textures, selecting colours, and manipulating light”. Neurological research and cognitive psychology could agree with Bosselmann's thesis. Perhaps it is possible to convert perceived duration of a commute from usual 40minutes to the desired 25, if only we learn to use time perception as an architectural tool.

We can have a better insight when we look at the structure of a Musical Staircase placed at Pruscakova Street in Sarajevo. A complex form of the stairway doesn't let us focus on the difficulty of overcoming heights. Looking at the Pruscakova Music Staircase, we could presume that climbing up the stairs would be much easier than fighting with long, row of steps without any breaks. In this situation, ▶



ABOVE: Time square by Taylor Goldblatt

“Put your hand on a stove for a minute, and it seems like an hour. Sit with a girl for an hour, and it seems like a minute. That's relativity.”

-Albert Einstein

we can observe a perception of temporal duration. A person under temporal duration isn't aware of the passing of time, so when asked they would probably describe the temporal event as passing quickly. In retrospect, on the other hand, the fulfilled event appears to be much longer. The opposite of temporal duration is protracted duration, occurring when an individual's attention is settled on a progression of time. That awareness highly increases the perceived duration of time. The difficulty of new events seems to be responsible for time passing more quickly than usually is more demanding for our attention. The complexity of factors which we perceive during our travel through urban space is, on the other hand, an issue deserving a closer look.

Among the whole structure of Music Staircase, we could detect many other operations and illusions which are meant to persuade us to walk instead of driving a car over a short distance.

If we look at the regularity of objects in space, in this case, a stairway we could notice that those deployed equally increase precepted duration in the time of an event. Irregularity, by contrast, decreases it. Separated segments of the staircase also apply to this rule, as every one of them

looks slightly different. More importantly they all have very different length. We could understand it as two streets where the first one is constructed with buildings characterised by similar dimensions and other one covered by objects of irregular sizes. Imagine walking down the first street. The first building we pass almost becomes a measure for the rest of the distance. Paul Fraisse presumes; “Of two divided intervals, the one that is evenly divided appears longer than that which is irregularly divided”.

It means that our capability of measuring time, can extend the duration of our journey.

Inside of highly complex habitats, we cannot define the duration of time because we get lost among destructions. The best example of a space that gives the illusion of time flying by could Times Square in New York. It is certain that half an hour spent under those flashing lights would be perceived much differently in comparison to universal time. The same illusion could touch us also in shopping centres or theme parks. All those locations are full of all types of stimulus affecting our visual senses. But yet, if we look at opposite circumstances, so habitats characterized by complete lack of stimulus, we will notice very similar effect.

Therefore, people who are being isolated from society, locked inside of narrow, empty rooms, for example prisoners, also loose sense of perceived duration. There is an optimum point on a diagram of the complexity of events concerning our perception of the duration of an event. Growing complexity could initially decrease the experienced duration such as in case of The Music Staircase when it pulls out our attention, preventing long, protracted duration, which usually concerns difficult and unpleasant activities. However along with its expansion, our perception of the duration of elapsed time would be constantly increasing until it meets the optimum point. Then decreasing back again, due to progressing chaos.

Another way to manipulate the perception of time is to suppress the awareness of the beginning and the end. What happens if we try to replace those two points using one characteristic, situated at the half way point? A truly illustrative example could be a child being taken on a long trip. As you are probably aware, children dislike and find long journeys difficult. But a promise of a surprise half way through the journey could definitely minimize the discomfort caused by boredom. The behaviour of pedestrians works in much the same way. By adding a significant and memorable element in the middle of a journey we could make the memories at the beginning and at the end of a street easier to deal with. That would bring our attention only to one central, place. thereby reducing the number of the divisions of our subjective experience and decreasing perception of the duration of an event. In this case, an event means a simple walk through the street. But it is important, that the street is well divided.

The Certainty of an end is another motive strongly influencing duration. Without it, we cannot estimate the duration of an activity. We could think, as earlier, about two different streets. One of them with a clearly visible end, and the other one curved, so that we cannot see our destination. Paths with relatively small changes in directions appear to be characterised by a decreased perception of time. Roads with substantial changes in direction could appear to be longer. That is caused by the increasing complexity of an event. Frequent changes in direction, when on a curved street, are probably even more influential by being a consequence of both, high complexity and uncertainty causing our perception of time is in this case to be stretched compared to the actual time.

Perception of time is a truly abstract concept, but by exploring relations between newest research of neurology, and study of cognitive psychology, we can learn how to offset its rules improving urban architecture. By doing so we would also greatly improve and upgrade the commuting system within urban areas. “Designers can manipulate the experience of individuals' perception appropriately for the overall design intent. One design goal may focus on the immediate awareness of the passing of time in terms “slower” or “quicker”. The other design goal is the reflective estimate of duration in terms of “shorter” or longer.”- P. Bosselmann. The Complexity of time can seem overwhelming, yet the goal of creating friendly and healthy living cities is well within our capabilities. ♦