

The Interdisciplinary Concept of Need

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Introduction

The purpose of this paper is to give input for the COST 358 Action on Pedestrian quality needs. I will present a conceptual analysis of needs, then consider the relevance of this concept related to walking as a particular mode of transport in the suburban context.

The Concept of Need

Conceptual analysis of need is essential in order to avoid confusion related to the interdisciplinarity of the concept. My intention is not to gather all information related to needs in different scientific contexts, but only to demonstrate the essential differences (and thus also complementarity) of different disciplinary perspectives.

The concept of need may refer to physiology, that is, the needs of the human organism to survive or maintain a set level in order to remain alive, responsive and active. Secondly, it may refer to psychology, that is, the needs that individual human beings would like to see satisfied in order to feel happy, content, or meaningful, even if they would not be necessary for their individual survival. These two types of need are not independent, of course: dissatisfaction of physical needs will have psychological effects (e.g. fear of dying), and dissatisfaction of some psychological needs will have physiological, somatic effects. On the other hand, some of the psychological needs that are not necessary for the survival of the individual, such as sexual needs, may be necessary for the survival of the species. Others, such as the need to communicate and build trust relationships with other people, are evidently necessary for the functioning social system.

As we move from psychology to sociology and political and cultural theory, we meet with a different meaning of need. In social and political systems, people are given and they acquire human and civil rights and duties, which are enforced by political and social systems. Thus we talk about legitimate or public needs, needs that we have a right to, and correspondingly needs whose satisfaction is the obligation of the political system. These are often contrasted with wants, desires or drives that do not necessarily have social or political legitimacy. Personal survival and physical safety, sexual sovereignty, freedom of speech and social relationships, freedom of thought, etc. are usually basic social values that support the legitimacy of certain needs. On the other hand, there are clearly desires and drives that are not legitimate in most societies, such as the desire of pedofiles to abuse children for their sexual pleasure.

However, there are many social and cultural needs that are not so self-evident. Do we need cultural services such as art museums and classical music? Evidently many people feel that they need them, and the society invests in them, even though many people – even the majority – feel they could do without. Do we need private cars and luxury apartments to demonstrate our social status? Do we need alcohol or drugs? Clearly there is no yes-or-no answer to these questions, since what is typical of social, political and cultural systems is that they are able to reflect on these issues, to redirect attention to problems and merits of different social values, and to discuss, legislate and educate accordingly. We cannot infer political or cultural values from physiology or psychology, not even sociology. There are, however, sciences that are concentrated on the normative analysis and redirection of social values, such as ethics and social and political philosophy.

One such class of needs are the aesthetic needs. Human beings and societies have from the early civilizations on invested in the aesthetic refinements of their environment, in addition to its mere functionality. Although aesthetic pleasure can be studied also in psychology, this is not all there is to it, since aesthetic experience can also be developed through aesthetic education and acquaintance with the arts. It thus has an inherent normative dimension studied in aesthetics as science (or philosophy).

Could we, then, list all the relevant needs, put them in a hierarchical order and then try to satisfy them one after the other? Clearly not, since the human perception and satisfaction of needs is more complicated than that. The supposed hierarchy would apparently start from the homeostatic needs necessary for individual survival, proceed to social needs that are necessary for the survival of the species, then go on to communicative, political and aesthetic needs, ending in luxury needs. But even the satisfaction of homeostatic needs is often intentional. Intentionality and the ability to deliberate and plan is the key feature of human beings – we are not thermostats. If the weather is too cold, we start to shiver (and thus produce more energy from the muscles), but not only that: we prepare ourselves with suitable clothing even before we go outside, or we decide to remain inside or take the car. Thus we make individual strategic choices – using technological means - to avoid situations where we predict that our physical coping mechanisms (such as shivering) are not adequate to keep us warm. The result may thus be the avoidance of walking. On the other hand, this homeostatic need may be in contradiction with certain social needs, such as the need of young people to be accepted in their peer group, as well as to form social and sexual relationships. Thus we may see teenagers dressed according to fashion instead of functionality, spending their time in parks and other public spaces during the cold weather, since they have no cars or other warm places to go to.

Systems of Needs and Walking

The systems-theoretic perspective, by itself an interdisciplinary framework, is of course one of the ways to make sense of these interrelationships. We may distinguish different systems and their environments with distinct features.

Starting from the homeostatic system, let us consider the following definition (related to the neural system) by Craeme Davis:

“A homeostatic system can be defined as having a constant output. Given this definition, there are several required features of a homeostatic signaling system. First, a homeostatic system has a set point that precisely defines the output of the system. As such, a homeostatic system will respond to a perturbation with compensatory feedback such that the set point activity of the system is reestablished. A second essential feature of a homeostatic signaling system is feedback. Feedback is necessary for the design of any homeostatic signaling system, although it is not sufficient to achieve homeostasis.... A third distinguishing feature of a homeostatic system is precision. A homeostatic signaling system will precisely retarget the set point activity of the system following a perturbation. Nearly all homeostatic signaling systems also incorporate sensors that provide information regarding deviation from the set point activity of the system. Sensors report the difference between the set point of the system and the actual output of the system. This difference is an error signal that can be fed back into the system in the form of negative feedback that ultimately restores the activity of the system to set point levels.” (Davis 2006)

The signalling systems of walkers could similarly be characterized: feelings of cold or hot, thirst, hunger, exhaustion, fear of violence or the traffic. These signals, as said, can be foreseen, and thus the pedestrian can do strategic retargeting choices: move to central areas where all the services are nearby, take the car or the bus to shelter herself from cold or to create artificial cooled atmosphere, or to avoid going out altogether, which is the choice that many elderly people make. They may also make tactical decisions, choosing safe crossings, sitting for a while on a bench, or avoiding suspicions and dark alleys.

The human being as a whole, however, is not a homeostatic system with constant output, and neither are the social and cultural systems. The politicians cannot be satisfied with keeping the temperature of the citizens constant; they may have the objective to keep the temperature of the world constant, that is, avoid global warming and its environmental and economic consequences. They may also have the objective to promote equal access to services and other activities to all. One of the strategic measures may thus be the promotion of pedestrian and cycle traffic, as well as public transport. In so doing they would have to take into account the homeostatic needs of pedestrians, such as access to water, food, shelter and cooled environment, all of which add to the quality of the pedestrian environment.

Thus the provision of urban quality is related to the precariousness of the pedestrian, and in particular certain groups of pedestrians, such as the elderly, the handicapped and the children, but also the urban poor. Interestingly, Rachel Aldred and James Woodcock have introduced the concept of a “social model of disability”, meaning “how car-dominated transport systems can be understood as disabling populations larger than those conventionally recognised as “disabled”. The car offers the technological fix of enabling abilities, in particular speed and strength, but in practice disables in a number of ways. Urban sprawl and traffic increase barriers to participation and access for many both “able-

bodied" and "disabled", while car dominance damages **social** interaction and limits sensory perception." (Aldred & Woodcock 2008).

But let us go back to the psychological, socio-psychological, and political systems, which are not homeostatic. One of the most elaborated and well-researched theories of psychological needs is the Self-Determination Theory (SDT), which distinguishes three basic psychological needs: the need for competence, for relatedness, and for autonomy (Deci & Ryan 2000). All these relate to the outside of the individual human being, to his or her social relationships and ability to get esteem and function in a community. This conceptualization is based on the notion of effectance motivation by White (1959), according to which organisms are born with the urge to influence their surroundings, to control their environment and the attempt to be capable. Thus there is no clear distinction between psychological, socio-psychological and political needs: satisfaction of the needs of competence, relatedness and autonomy are equally necessary for active political participation as they are for domestic and working life (Renshon 1975). Conversely, dissatisfaction will lead to anxiety and/or withdrawal.

Thus the pedestrians cannot only be seen as receivers of certain qualities in the urban environment, but their activities and decisions will be related to their competence (how well they will be able to read the environment, adjust their action according to the situational context, etc.), their relatedness (how well the environment will allow for the different types of social encounter), and autonomy (how well they will be able to control their personal space, the distances between different people met in public spaces, as well as the ability to create a personal and emotional relationship to the environment).

The situation looks somewhat different, however, if we approach the human subject from the point of view of sociology or political theory. The key figure here is Michel Foucault, who has studied the formation of the human subject from a historico-theoretical and genealogical perspective. In this context, the human subject is not only an individual with specific initial needs, but he or she is also a subject of power. In fact, the whole idea of a subject is formed through this political process of subjugation, which means the growth of self-control over overt physical control and discipline.

From this perspective, the public space is not conceptualized only as an asset satisfying pre-existing needs, but an entire control-system – not only through CCTV:s but also through the mechanisms of self control. This disciplinary power, however, creates the corresponding resistance through appropriation and redefinition of spaces. Streets may be turned into party spaces, vacant premises may be taken over, or parks be re-modeled as living rooms for the immigrants.

As an overview of the different types of need discussed above, let us suggest the following initial classification of needs, their respective definitions, and the relevant issues and problems related to pedestrians in the suburban context:

Type of need	Definition	Relevance and problems
Homeostatic/subsistence needs	Necessity of the human physical system to maintain a set level of temperature, nutrition, activity, etc.)	Provision of shade, shelter, resting places, public wells, restaurants and cafeterias, safe crossings, etc. Investment is often concentrated in central areas instead of suburban and exurban areas
Psychological needs	Necessity to reach e.g. relatedness, competence and autonomy in order to live a satisfying and meaningful life	Provision of accessible public and community spaces for meeting and communication, clear orientation and legibility, necessary control to ensure personal security. Zero tolerance against marginalized groups create segregation. Weakened community ties a problem.
Aesthetic needs	Preference for well-designed and/or meaningful cultural products and natural environments, can be refined through education and acquaintance with the arts	Provision of well-designed urban space, good materials and street furniture, scenic environments. Investment often concentrated in urban centres.
Social needs	Necessity of social groups to communicate and cooperate, as well as form social distinctions.	Provision of accessible public spaces for meeting and communication, clear orientation and legibility. Weakened community ties and social inequalities a problem.
Public/political needs	Facilities and services that are considered citizens' rights that the political system is committed to. Disciplinary control/subjugation.	Provision of high-quality and accessible public spaces and public services, public transport, affordable and accessible housing, personal security, freedom to use public space within limits. Disciplinary control vs. resistance, conflict in urban space a problem.

Table: Classification of needs

References

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