Phenomenal space:
Attitudes and methods

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Abstract
Space is a widely used concept in our everyday life and the architectural discourse is full of it. In space syntax it is the main subject. Phenomenology frequently uses the word, however mostly related to place. Space is nevertheless a problematic thing. Can research contribute to our understanding of what it really is? Does this understanding help us in our everyday life and professional practice? A study of movement behaviour to and from a university campus entrance is the departure for a discourse on how space can be understood as a phenomenon.

Keywords
Phenomenology, space syntax, behaviour, action, isovist, perception, epistemology

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How is space conceived?

"We can know all those things about physical space which a man born blind might know through other people about the space of sight; but the kind of things which a man born blind could never know about the space of sight we also cannot know about physical space. We can know the properties of relations required to preserve the correspondence with sense-data, but we cannot know the nature of the terms between which the relations hold." (Russell, 1982: 16)

A basic idea in phenomenology is to get rid of preconceived ideas and to take in the wholeness of a phenomenon. In the scientific discourse an Indian fable is often used to demonstrate what can go wrong if we do not consider all aspects of a phenomenon. Three blind men are confronted by an elephant and start to describe this phenomenon to each other. The first one touches its tail and declares that this wriggling thing must be a snake. The second embraces one leg declaring that this furrowed stem is a tree. The thing with its trunk embraced and kissed the third blind man's cheek, who said that this must be an emancipated beautiful girl.

Perception of a phenomenon never gives us the full evidence of what a thing is. A coin seen from one view is an ellipse, from another it is a straight line. Though, the "essence" of a coin is its circularity (and that it circulates). The Indian fable must

be an educational construct, a story that most primary school children quickly would reject. A hairy and harsh tail does hardly resemble a snake. An elephant skin has a different pattern from most trees. Smell from an elephant differs a lot from a beautiful girl. That's right, but how can we know what references these blind men might have to phenomena like elephants. And how can we, and blind men, understand space?

Practising architects may, unanimously, claim that their real expertise is the skill to design space. Thomas A. Markus finds irony in the architects' claim that they design space when "most of their effort goes into designing the elements that enclose space, into shaping the physiognomy of the surfaces of those elements" (Markus, 1993: 7). Despite this, he states, they of course create space, but rather as a kind of by-product. Their practice does not ignore spatial consequences. There must be some kind of knowledge about space, and of course about its functionality. In its tacit form this is a knowledge shared by all of us, by designers and users of space alike.

We need to explain how space can be known and can be thought of. That is in fact "to try to characterise what is to be known in terms of how it can be known" (Hillier, 1984: 45). How are methods applied to explain our understanding and creative thinking of space? The difficulty of describing space in its own terms seems to rise from its specific nature. Space is a vacancy and as such its bodily nature is obscure compared with physical objects. The way that common sense considers space can, of course, be questioned philosophically and scientifically. Space cannot be taken for granted in the way that we think we can take objects for granted (Hillier, 1996: 26). This constitutes the main reason that space is rarely described in a fully independent way. This is even the case where space is of main interest, i.e. in architecture. Spatial enclosure is generally described "by reference to the physical forms that define it rather than as a thing in itself" (ibid: 27).

Spatial inventions have something to do with visibility and human eyesight, but what about the patterns of relations not easily visible. The very problem of relations is something that concerns the nature of our knowledge of physical space. This knowledge has not a simple relevance with our perception through sense data, and can never be reduced to them. Bertrand Russel already in 1913 in his book "The Problems of Philosophy" stated that "space as we see it is not the same as space as we get it by the sense of touch; it is only by experience in infancy that we learn how to touch things we see, or how to get a sight of the things we feel touching us." And he proceeds:

Assuming that there is physical space, and that it does thus correspond to private spaces, what can we know about it? We can know only what is required in order to secure the correspondence. That is to say, we can know nothing of what it is like in itself, but we can know the sort of arrangement of physical objects which results from their spatial relations. (Russel, 1982: 14-15)

Russel suggests a clear distinction between physical spaces (independent from subjects) and private spaces (experienced or conceived by individuals). He also suggests there is no way to explore the essence of physical space through experiences. Our knowledge about relations in physical space has nevertheless relevance to their independent reality. Just because of this it is a useful knowledge in our everyday life. The problem arises from the abstractness of relations and the way we understand them. This explains why one of the main objects that architects design, i.e. space (or void), generally belongs in the realm of tacit knowledge.

The non-discursiveness of space and spatial configurations is a crucial problem in architectural research. Space and the knowledge about it can however be made discursive and explicit. To proceed in this way we need to know how we experience the phenomenon of space or, otherwise expressed, to know what a phenomenon is that we really experience when we talk about the experience of space.

The area between the northern entrance to the campus of Chalmers University of Technology in Gothenburg and the nearest tram and bus stop was a place that we experienced at least twice a day during many years. We had a notion that there was a kind of correlation between the way people moved in this place and the arrangement of the space that they experienced. This became a motivation to plan and carry out a study. Three questions that we try to answer are:

1. Is there any regularity in pedestrian movement in the study area?
2. If yes, how can it be correlated to the spatial arrangement?
3. Can phenomenology contribute to our cogitation upon space?

The choice of routes

Figure 1 depicts the shape of space in the study area. The first step was to record the pedestrian movement. People came to the campus from the north (= up). The first zebra crossing was used by everybody and it was regulated by traffic lights. The trajectories between the traffic island, point A, and the entrance of the campus, point D, were the objects of our study. Two courses were intended for pedestrians. One was along the east west zebra crossing with traffic lights over the secondary street to the campus and the pavement to the east of it. This route was used by few people (max 5) and was later ignored. The other course was a winding route over two zebra

crossings with no traffic lights and a pavement separated from the street by a fence between these crossings (the safe line between points A and B). A large number of people moved along a not intended (and illegal) route along the straight line crossing the secondary street diagonally connecting the entrance and the traffic island (the risky line).

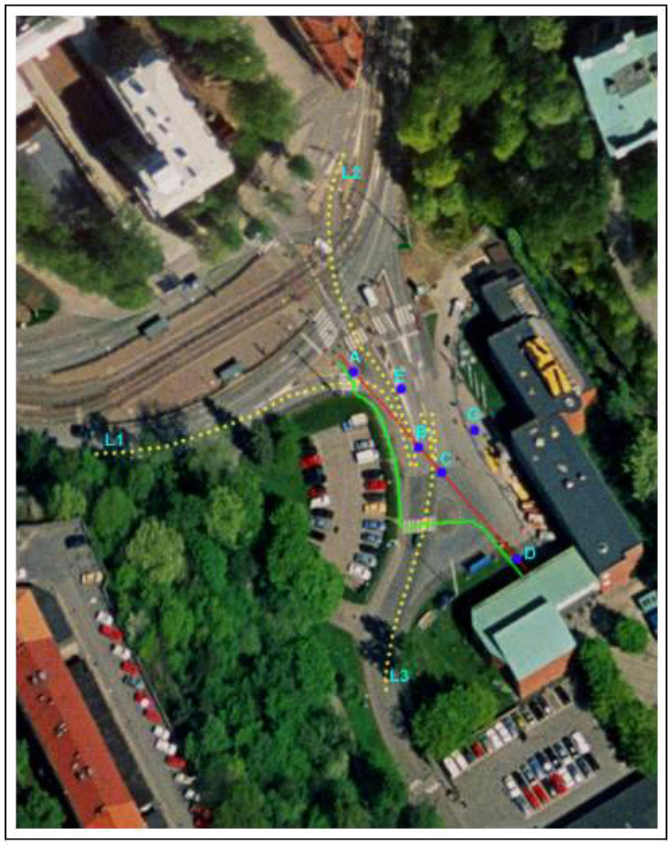

Figure 1: The study area at the northern entrance of Chalmers' campus. Safe route = dashed line. Risky route = continuous line. Traffic lanes L1, L2 & L2 = dotted lines. A, B, C and D are crucial points.

For observations of moving people a “gate method” was applied. The categories counted were moving women and moving men along the safe route (the dashed line), and along the less safe route (the continuous line passing through B and C). With two directions it became eight categories. The counting was conducted in three time periods: first in the morning rush hour, second in the midday period and the third one in the afternoon rush hour. This gives a total of 24 sets of data.

Table 1 shows the total of counts without taking sex into consideration. We can see that a majority of all trajectories follow the risky line. If we look at the difference between directions it however shows that people moving towards the campus in all periods prefer the risky route while people leaving the campus prefer the safe one (St). The equality sets are:

$$St - Rt = 23 - 77 = -54$$

$$Sf - Rf = 58 - 42 = 16$$

Observations reveal a general non-symmetric regularity in pedestrian movement. Why is it so?

	Safe line		Risky line		Difference	
Towards campus	**St**		**Rt**		**Diff Index**	
morning	46	14%	274	86%	-228	-72
noon	29	32%	62	68%	-33	-36
afternoon	46	46%	53	54%	-7	-8
subtotal	121	23%	389	77%	-268	-54
From campus	**Sf**		**Rf**		**Df**	
morning	39	60%	26	40%	13	20
noon	67	52%	61	48%	6	4
afternoon	268	60%	180	40%	88	20
subtotal	374	58%	267	42%	107	16
Total	495	43%	656	57%	-161	-12

Table 1: Number of people taking safe and risky routes

We also counted the different trajectories used by women and men, Table 2. For differentiating moving men and women from each other we here add the character of 'm' respective 'w' to the above mentioned signs, e.g. 'Stw' will signify moving women along the safe line towards the campus. In sum 224 (46%) of moving women and 271 (41%) of men chose the safe line. Thus, women chose the safe line a whole 5 points more than men. But the interesting thing in the comparison between the two sexes is the difference in what we call the 'index of tendency' i.e. the increase in the rate of choice of safe line when the movement turns to the direction from the campus. This inequality indexes for women respective men are as follow:

$$Sfw - Stw = 64 - 26 = 38$$

$$Sfm - Stm = 54 - 22 = 32$$

Women also change their choice of route more than men (6 points more) when the direction of movement changes. When this 'more cautious category' behaves, or more correctly acts, they are more sensitive to the direction of movement. There must be something significant not only in the routes but also in the very direction of movement.

	Towards the campus		From the campus		Diff index
Women					
Safe line	61	26%	163	64%	-38
Risky line	170	74%	90	36%	38
Men					
Safe line	60	22%	211	54%	-32
Risky line	219	78%	177	46%	32
Total					
Safe line	121	24%	374	58%	-34
Risky line	389	76%	267	42%	34

Table 2: Choice of safe/risky routes among women and men

The review of information from three characteristic time periods of observations, the comparison and analysis of recorded data in detail and finally the overall picture of this data permit us to draw the conclusion that there is a clear and constant pattern in the pedestrian movement in the study area, a non-symmetric regularity of directions. Finding the social, psychological or any other reason for this difference was outside the limited scope of our study. Here, we look for an explanation about the space and how it is perceived.

How does space interfere?

What is the underlying systemic process that gives the data just presented? This regularity is not easily observed from movements of individual pedestrians. According to common sense crossing a street diagonally is risky. This simple proposition is based on our common experiences and a simple, but nevertheless logical reasoning in a shared cultural context that is naturally shared also by pedestrians in our study area. This sample of pedestrians acted as if the “risky route” was not as risky in one direction as in the opposite direction. This difference of 34 points cannot be just an accident! What aspects of the space are significant to pedestrians in relation to their movement and how do they really experience this space.

Pedestrians moving along the risky line (the route crossing the secondary street diagonally) had to watch out for vehicles moving on three traffic lanes. In Figure 1 these lanes are marked as L1, L2 and L3. The first two join between A and B. The third lane bifurcates between B and C. On the risky line points A, B and C are of significance, because there pedestrians begin to cross the lanes.

Figure 2:. Shaded area is the isovist from point D. Hatched form to the left represents bushes surrounding a parking area. Buildings in black.

The geometric and dimension picture of the space in the study area was invariant and common for all pedestrians no matter how they moved and where they were. Through the geometric conception pedestrians could know where vehicles were moving - or could be moving being out of their sight. The dimensional conception of the space helped them to estimate the distances from where they were to the points where vehicles were or could be moving. Pedestrians were dependant on visual information directly for deciding how to move.

Visual information can be studied through a technique for representing spatial environments known as isovist (Benedikt, 1979). For example in Figure 2 the shaded area is the isovist from point D at the entrance of the campus. Minor objects like lamp posts or traffic signs are here neglected. By drawing isovists for the three points A, B and C it can be checked if the whole area of the three lanes of L1, L2 and L3 is situated in the visual field of the pedestrians at those points or not. The graphs in Figure 3 show the relational system of visibility as a result of drawing these isovists. The links connecting points to lanes indicates when a lane is within the isovist of a point. Described in another way it is when a car driver on a lane and a pedestrian on a point can see each other. The absence of links indicates a lack of mutual visibility between lane and point.

What gives a feeling of safety to a pedestrian crossing a lane is the full sight of that lane before entering it. Then the movement of pedestrians along the risky line in two directions can be studied taking into account this factor to find out if there is any difference in the spatial system in this respect that can cause lower tendency for moving along this line in one direction rather than in the other.

In Figure 4 another set of simple graphs shows the relation of each of the three points on the risky line with the adjacent lane that pedestrians moving on one of the two directions began to cross from that point. Thus concerning the direction of movement towards the campus, i.e. the direction from A to C on the risky line, point A is linked to (the shared zone of) lane L1 and lane L2 and point B is linked to lane L3. Concerning the opposite direction point C is connected to L3 and point B is connected to L1 and L2. The relation of visibility between the points and the lanes depicted in the former set of graphs in Figure 3 is incorporated in these graphs. The continuous line indicates that a lane is also visually linked with a point and the dashed line indicates a lack of visual connection between a lane and a point.

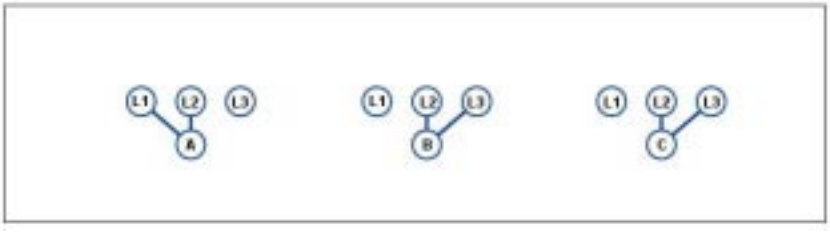

Figure 3: Visibility graphs of three significant points on the risky line in relation to the three traffic lanes. Lack of link indicates lacking mutual visibility between a lane and a point.

Figure 4: Visibility graphs indicating basis for decisions on the risky line. The two left ones expose full information when moving towards the campus. In the reverse direction a dashed line show lack of information.

The direction towards the campus. **The direction from the campus.**

There is no dashed line in the graphs concerning movement towards the campus. Pedestrians on point A before entering (the shared zone of) L1 and L2 could see these two lanes thoroughly and before reaching point B they had full view over L3. But in the opposite direction there is a dashed line indicating that pedestrians on point B before entering L1 and L2 did not have full sight over lane L1.

If the lack of view over one traffic lane from one point (view over L1 from B in Figure 1) made it much more risky to cross this lane from that point and consequently caused a lower tendency in choosing one route moving on one direction (the risky line on the direction from the campus) that characterized the pedestrian movement pattern in the study area, then making this lane visible from that point would reduce the risk and consequently would change the movement pattern in the study area. This could easily be provided just by trimming down the hedges round the parking area on the corner where vehicles turned right from the main street into the secondary street. This trimming of hedges would be a small change in the geometry of space in the area but nevertheless it could cause a remarkable change in people's action in space, in the pedestrian movement pattern. The minor geometric change in space would be, in fact, a remarkable change in the relational system of space, as pedestrians would experience it. And this could affect pedestrians' action because space for the experiencing subject is always a phenomenon with a strong relational nature. However, shortly after our investigation the whole area was completely changed; bushes were taken away and traffic lanes moved. Unfortunately, the simple experiment to trim hedges was no longer possible. It might have given extra strong evidence to our findings, although already strong enough.

Phenomenological attitude versus analytic method

Our everyday life-world consists of concrete "phenomena". It consists of people, of animals, of flowers, trees and forests, of stone, earth, wood and water, of towns, streets and houses, doors, windows and furniture. And it consists of sun, moon, and stars, of drifting clouds, of night and day and changing seasons. But it also comprises more intangible phenomena such as feelings. This is what is "given", this is the content" of our existence. […] Everything else, such as atoms and molecules, numbers and all kinds of "data", are abstractions or tools which are constructed to serve other purposes than those of everyday life. Today it is common to mistake the tools for reality. […] Being qualitative totalities of a complex nature, places cannot be described by means of analytic, "scientific" concepts. As a matter of principle science "abstracts" from the given to arrive at neutral, "objective" knowledge. What is lost, however, is the everyday life-world, which ought to be the real concern of man in general and planners and architects in particular. Fortunately a way out of the impasse exists, that is, the method known as phenomenology. (Norberg-Schulz, 1980: 6, 8)

Christian Norberg-Schulz is considered, also by himself, to be the main contributor to architectural theory from a phenomenology point of view. His book Genius Loci - towards a phenomenology of architecture (1980) is frequently cited by architects. The attitude demonstrated in the above quotation from the book is common among architects and some architectural theorists as well. The view that attributes logically prior and determinant status to objects in relation to space finds an extreme expression in for instance Roger Scruton's suggestion. He argues that, "the idea of space is a category mistake made by pretentious architects, who have failed to understand that space is not a thing in itself, but merely the obverse side of the physical object, the vacancy left over by the building" (Hillier, 1996: 28).

Bengtsson (1994) suggests that phenomenology can be reckoned as an experience philosophy. In comparison to philosophical and psychological tradition it has however an unusually rich source of 'experiment concept'. He counts four phases in the historical development of phenomenology, the descriptive, the transcendental, the existential philosophical and the hermeneutical phenomenology. The original method of the "founding father" of phenomenology, Husserl, is descriptive and can be described as epistemology. The basic rule is to describe a phenomenon directly and commonly, avoiding prejudices. Instead of describing the idea of a horse try to describe this specific horse. Give a phenomenon a precise and full description and then set back (epoché) to understand it. Bengtsson explores the inner logic of the development and claims that descriptive phenomenology represented by Husserl in his early work was soon abandoned as he found it insufficient to fulfil his theoretical ambition. Bengtsson argues that instead of creating closeness to the human experience this transcendental attitude however conveyed a distance, which counteracted the basic principles of phenomenology. The transcendental subject (ego, self) is not a distinctive 'thing' like all other 'things' that appear as a subject of the consciousness, that can be experienced.

To see, in its dual meaning, involves human beings. The definition of space in terms of constituent elements and relations entails the presence of an observer with the ability of seeing isovist fields and moving around in space (Azimzadeh & Klarqvist, 2000). The space, the relational scheme, is considered as a phenomenon experienced by a human agent. It is a 'thing' for somebody and not a thing in itself. In this concern the described way of understanding space may be accounted as a phenomenological approach. Things in phenomenology are phenomena in its original meaning, the Greek phainomenon is 'that which appears', and what appears must necessarily appear to somebody (Bengtsson, 1994).

Central to a phenomenological approach is the rejection of any subject/object or people/world division. The fundamental assumption is that "people are their world and that world is its people" (Seamon, 1994: 37). This subject is a worldly subject, bounded to a real historical world, a constituent of this world and constituted of what comes from it. "The subject that lives in the world is worldly and the world is a lived world" (Bengtsson, 1994: 24, our translation). The inner world of the subject, the self-to-self relation, is formed through being in the world (of others). "It is in speaking and listening to others that the internal dialogue is learnt" (Markus, 1993: 21).

This internal dialogue has an inherent nature of intersubjectivity. It is based on the socially acquired faculty of judgment that enables the individual subject to think from the perspective of everyone else. As Hannah Arendt put it:

The power of judgment rests on a potential agreement with others, and the thinking process which is active in judging something is not, like the thought process of pure reasoning, a dialogue between me and myself, but finds itself always and primarily, even if I am quite alone in making up my mind, in an anticipated communication with others with whom I know I must finally come to some agreement. And this enlarged way of thinking, which as judgment knows how to transcend its individual limitations, cannot function in strict isolation or solitude; it needs the presence of others "in whose place" it must think, whose perspective it must take into consideration, and without whom it never has the opportunity to operate at all. (Arendt, 1992: 220-221)

The modern hermeneutic school was mainly developed on the basis of the existential philosophical direction in phenomenology. By the assumption of the subject's existence in the world, the hermeneutics argued that we never have direct access to the things themselves. They are always already intermediated by the subject's dependence on a historical period, a social circumstance, a given definite language and so on. If phenomenology is to remain faithful to the examined phenomena and treat them on the basis of its own principle then it does not suffice just to observe them and describe them. The observation has rather the structure of understanding. Phenomenology must be hermeneutical because we have to interpret "things" (Bengtsson, 1994).

Many research practices have shown that there is no actual contradiction in the phenomenological approach and the application of analytic theory and methods in research into the built environment. Kim Dovey draws upon both the method of space syntax analysis and phenomenology in his book, Framing Places (1999), where

he investigates how the built forms of architectural and urban design act as mediators of social practices of power. Dovey, in his phenomenological approach to the concept of space, refers to Merleau-Ponty and suggests that:

'Space' is not an abstract set of relations (nor an 'ether') within which the life world is structured. Rather, the lived experience of the body-in-space is the primary relation from which all conceptions of space are constructed. […] Our understandings of space emerge from action, indeed space is to be defined as a certain possession of the world by my body, a certain gearing of my body to the world. (Dovey, 1999: 39).

There remains still the question of how, practically, phenomenology can be involved in research work applying analytic methods. When Bengtsson talks about the 'method' in relation to phenomenology he suggests that it can be misleading to characterize phenomenology simply as a method. He argues that by method we usually mean an amount of principles or rules that will steer the research on a specific course. The phenomenological method is however of a special kind. It is characterized on the basis of the fact that phenomenological examinations should not be steered by any predetermined rules at all because such a rule following process provides only access to what the rules permit. Phenomenological examinations should instead be steered by the very things. Bengtsson suggests therefore "it would be better to use a less obliging designation, e.g. 'attitude'" (Bengtsson, 1994: 20). Through this 'attitude' different phenomena can be classified in themes, their properties and structure can be uncovered and described and their significance can be made explicit and exposed.

In modern science theories stand for the deepest level of understanding phenomena. However they are at root speculations (Hillier, 1996: 69-70). Theories have an inventive character that derives from their speculative nature, from their belonging to the realm of speculative thought that exclusively belongs to human beings. Phenomena for scientists, according to Hacking, "are significant regularities that are useful for speculation" (Hillier, 1996: 265).

Regularities are specific kinds of intelligible and significant relations between properties of phenomena. They can be noted through our everyday experience but in their raw state they are not workable as objects of theory. The first step in theorization is to formalize the idea, i.e. to extract the idea of regularity from the phenomena in the world as we experience them in real space and present it as pure regularity independent of the qualitative nature of things in an abstract space that Hillier calls "property space" (Hillier, 1996: 72). In real space all properties of

phenomena are present, in the property space, only what can be of interest. Thus the process of abstraction is also a process of abbreviation. Science, like language, is an abbreviation of reality. However language and science are not just useful, but indispensable in our 'real lived world'. This is certainly confirmed by current phenomenology. In the indispensable science the application of methods is indispensable.

If phenomenology, which has been characterized as an attitude to be rescued from any methodological restriction, can be associated with analytic methods in a research process, then there must be some concordance between phenomenology and the underlying theory of those methods in a paradigmatic context.

Space and human action

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An important contribution of space syntax is believed to lie in its emphasis on space as 'lived-in space' (Major et al., 1997: 42.01). The gearing of the body to the world can be better understood through a 'key element in the meta-theoretical foundation of space syntax', as Hillier mentions it, "space is not to be treated as a background to either objects or human activities, but as an intrinsic aspect of both. Thus we converse in convex spaces, we see isovist fields and we move in lines." (Hillier, 1997: 35.16). Hillier discusses that human actions in space; movement, co-presence and alike, are not only a functionality of spatial systems, arising only as a consequence of the system. There is a natural geometry in those very actions too (ibid).

The fundamental idea in existential phenomenology is the existence of the subject in the world and its relation to the worldly phenomena. Bengtsson illustrates this idea in a simple example with a focus on human action. There are two issues of 'what a thing is' and 'that a thing exists', and their integration in our experiences of the reality. He explains when we consider what, for example, an angry dog is, there is no distinction between a perception and an imagination. The content in both cases is 'an angry dog', Figure 5. But there appears an essential difference when one notices an angry dog and when one only imagines it. This bears a decisive consequence on our action (reaction) in relation to what is experienced. In the former case we flee from the animal while the latter experience does not cause any reaction at all. One who in her or his capacity as a subject becomes scared is in all circumstances scared because of existing in the world. Thus the subject in question cannot be understood as transcendental and pure subject since a pure subject cannot be scared of an existence in the world that it does not have (Bengtsson, 1994).

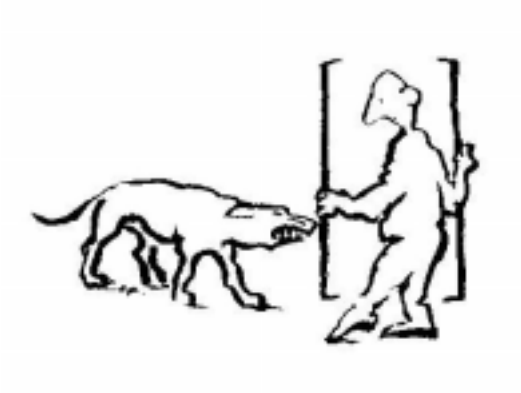

Figure 5: Action related to the angry dog and 'the angry dog'. (Bengtsson 1994:22)

Human action, in itself a space-time phenomenon that can undergo objective investigation, works as a link between subject and object. It can constitute a stable and reliable ground for characterizing experienced phenomena in terms of the way they are experienced. Thus research into space (lived-in space) can begin with research into actions happening in space.

Human actions are usually indicators of experienced phenomena but neither actions nor phenomena are always as clear and distinct as for example, the 'act of fleeing' that may reflect the experience of confronting 'an angry dog'. It becomes much more complicated when our activity in relation to space is at issue since our knowledge about space is not usually explicit knowledge. Acting in a space we may follow many rules just imposed by that space without being fully aware of those rules. Two points are important in studies that try to relate human action to space. First we must make it clear what exactly we mean by an action, second we must be able to distinguish the precise impact of space in shaping the action from the impact of other factors which may be present while the action happens. It is the question of making the environment of the experiment as clean and controlled as possible.

With a point of departure in phenomenology, the intention of this study was, following the human action as a link between the subject and the experienced phenomenon, to understand what the experienced space is. If we follow the line of the study we need to translate this regularity again into a specified action. This would not be a return to the simple action of moving, the raw material of the study. This would be the action that came to light through revelation of the regularity. In a nutshell this is the action of people when they change the route of their movement in the study area depending (34 points) on the direction of movement. It is this action that can be traced to obtain knowledge about the phenomenon experienced by the actors.

Abstractions may hinder us from seeing. In that Norberg-Schulz is right. Nevertheless models, theories, data, numbers and molecules are abstractions that serve our daily life and can help us to see. Norberg-Schulz' in his "theory" claims that modern places have been lost and therefore alienate people and that people need concrete roots in one specific place. Bengtsson (1994: 29-30) criticises the logic of his phenomenology statement concerning the formation of human identity and claims that a) the more important place is for identity and the less other factors are involved the more narrow-minded is the person and b) the smaller the places are with which people are identified, the more narrow-minded they are. Norberg-Schulz summarises his book Genius loci – towards a phenomenology of architecture thus:

This direction is not dictated by politics or science, but is existentially rooted in our everyday lifeworld. Its aim is to free us from abstractions and alienation, and bring us back to things. But theory is not enough to gain this end. It also presupposes that our senses and our imagination are educated. […] Today man is mainly educated in pseudo-analytic thinking, and his knowledge consists of so-called "facts". His life, however, is becoming ever more meaningless, and ever more he understands that his "merits" do not count if he is not able to "dwell poetically". "Education through Art" is therefore more needed than ever before, and the work of art which above all ought to serve as the basis for our education, is the place which gives us our identity. Only when understanding our place, we may be able to participate creatively and contribute to its history. (1980: 201-202)

The book is loaded with abstractions, one subtler than the other. This obscures what architecture is about. More essential is that it is a misuse of the basic idea in phenomenology of direct observation and interpretation. It contradicts its roots. Space is often considered to be an invariant phenomenon. Differences in space are described as differences in the sense of space, an introspective experience. They are not referred to the phenomenon but just, unilaterally, to the human agent and her/his sensual capacities. Our study has stresses that by approaching space with a phenomenological attitude, but as a lived-in space suggests, "a pattern of space not only looks different but actually is different when justified from the point of view from its different constituent elements" (Hillier, 1996: 33).

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