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# O. F. BOLLNOW

## AND THE ONTOLOGY OF HOME AND MOVEMENT OUTSIDE

### EUCLIDIAN SPACE, HUMAN BEHAVIOURAL SPACE AND THE HARMONIOUS OR POLAR SPACE CONCEPT (COINCIDENCE OF OPPOSITES)

Suggestions for the revival of fundamental discussion of  
concepts of space.

Paper prepared for the Symposium on ~~The~~ Ancient Home and the Modern  
Internationalized Home: Dwelling in Scandinavia<

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OTTO FRIEDRICH **BOLLNOW** AND THE **ONTOLOGY**  
OF HOME AND **MOVEMENT OUTSIDE**

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or polar space concept (coincidence of opposites)

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ABSTRACT

Space is still one of the primary categories of man's culture and is basic to any architectural discussion, whether in the domain of practical architectural design or in architectural research. In 1971 Christian Norberg-Schulz (>Existence Space and Architecture<) proposed his concept of >existential space<, which was based on Jean Piaget's studies of the child's concept of space (**ontogenetical** aspects of space conception) and, in its socio-cultural aspects, was stimulated by many previous studies (**philogenetic** problem of space conception), but mainly and essentially by the historian of religions, Mircea Eliade, by the art historian, Dagobert Frey, and by the philosophical **phenomenologist**, Otto Friedrich **Bollnow**.

Norberg-Schulz's existential alternative to the Euclidian concept of space was not really influential with regard to architectural design, mainly for two reasons: (1) he rather arbitrarily submitted the materials to his own concept of architectural space and (2) the discussion was submerged in the rhetoric of post-modernism.

On the other hand, Bollnow's revolutionary contribution has been overlooked. Further, the book has unfortunately not been translated into English. For this reason the present paper reviews Bollnow's important approach: he considers extended metaphysical or cosmological space concepts to be secondary and the concept of space as it evolved around the human habitat to be primary. Further, **Bollnow** sets man and his need for movement and rest in the centre of his concept of space. The homogeneous geometrical concept is thus rejected. Space as it relates to man

and his behaviour becomes non-homogenous and is expressed in a wealth of heterogeneous situations. It is evident that this outlook is of far-reaching consequence for architectural research.

The present author is convinced of the anthropological significance of this concept of space and came to similar results in his own studies: ethnographical (semantic and symbolic architecture, particularly, building rituals of Japanese village Shinto); ethnological (house, territory and space concepts of a traditional society of hunters and gatherers, the **Ainu**); and anthropological (studies of basic architectural phenomena like nestbuilding of higher apes).

“To be man... means dwelling.

(Bachelard)

“The world is a nest.”

(Bachelard)

#### INTRODUCTION: METHOD AND SOURCES

**Bollnow** justifies the choice of his philosophical ontology of space on the basis of the philosophy of his time. **Bergson**, **Simmel**, **Heidegger**, **Sartre**, **Merlau-Ponty** and **Minkowsky** had all discussed the temporality of human existence as the central and basic philosophical problem. Spatial conditions of human existence remained in the background. Some studies had been done in the 'thirties focussing on space as it is experienced in the frame of psychopathology and psychology. Thus, philosophically, **Bollnow** places his studies in a wider framework, related to **Heidegger**, **Graf Dürckheim**, **Minkowsky**, **Straus**, **Binswanger**, **Lassen**, **Beutendyk**, **Bachelard** and - in other ways - to **Cassirer's** philosophy of symbolic forms.

Methodologically speaking, **Bollnow** is strongly related to phenomenology. **Norberg-Schulz** considers his book to be speculative and non-scientific, but he obviously did not understand that phenomenology does not construct its theories by systematic, logical calculation, but rather cultivates its clear view in a philosophical sense. As expressed in the term '**phenomenology**', it devotes itself to the description of phenomena, being convinced that, with well-founded reflexions, the studied object will reveal its pure essence. And, in fact **Bollnow**, by describing space in close relation to human **behaviour** and **environmen-**

tal conditions, seems to have hit on the essential structure of space. Obviously this can also be valuable in an anthropological sense.

In complete contrast to Norberg-Schulz' sterile concept, Bollnow's outlook is deeply humanistic, setting man and his environment at the centre of all that he writes, thus managing to show a tremendous richness of new insights, which make the architects space concept look like a rather poor tool. In fact, it is tempting to imagine how different architecture could be today if, instead of post-modernism, Bollnow's concept had become the basis of architectural reasoning in the last thirty years.

His method is also reflected in the contents of the book, which presents a rich catalogue of approaches and themes. But this complexity should not be a source of confusion. On the contrary, the phenomenological method defines its object through the greatest possible number of perspectives and thus Bollnow manages to respond to the factual complexity of space.

Obviously Bollnow has received great impulses from the structure of the German language. In contrast to the more rationalistic traditions, e.g. those of the romanic languages - in particular French -, the German language has not lost many of its primitive roots. Thus it has preserved many terms related to original conditions of space, words which imply meanings very different from their romanic counterparts (e.g. >Platz< (place) versus >Ort<, >Stelle<, >Heim< etc.). Consequently, important parts of Bollnow's discussions are based on the history of words, language and thought as expressed in literature. In this sense particularly, etymology could become an important source for research into human space concepts and architecture.<sup>1</sup>

Further, Bollnow deals extensively with the philosophical discussions of his time insofar as they relate to his theme. In a wider context he also uses cultural history, mainly European, but partly non-European, and ethnology. Mircea Eliade's structural history of religion plays a considerable role, but Bollnow remains sceptical of his metaphysical interpretation, which contrasts sharply with Bollnow's own humanistic approach.

The book is divided into five main chapters entitled: >the elementary articulation of space<, >the wide world<,>the house and the feeling of security<, >aspects of space< and >the spatiality of human life. Trying to preserve the basic structure of Bollnow's book, we will in the following try to give a short

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<sup>1</sup>s. Meyer: das geflochtene Haus

review of his most important thinking, as far as this is possible for a book of more than three hundred pages.

#### THE ELEMENTARY ARTICULATION OF SPACE

In his first main chapter Bollnow uses different sources to show that, in its origins, space was not a boundless concept, but on the contrary, was more or less clearly limited, defined, rather environmental and closely related to settlement history.

Space is not homogeneous, but articulated. This is already suggested by Aristoteles' puzzling discussion in the fourth book of his physics, the first treatise on spatial problems in the occidental tradition of thought. Relating it to the four elements (fire, air, water, earth), he teaches the "natural articulation" of space, each of these elements showing a natural directionality e.g. upwards in the case of fire and light things and downwards in regard to earth or heavy things. Bollnow emphasises that this concept differs essentially from our modern view of space. There is another puzzling aspect in the Aristotelian notion of space: what we would consider as "place" (topos, >Ort< in German) somehow appears to be hierarchically projected from a local to a cosmic dimension and thus shows extension, which Bollnow compares with a container. Conclusion: Aristoteles' view is never one of an endless mathematical space but is limited, in its utmost extension to "the void delimited by the heaven's vault." (:30)

That space is originally delimited is also suggested by the etymology of the German word "Raum". Grimm derived it from the corresponding verbal form "räumen", to clear a part of the wilderness with the intention to settle down, to establish a dwelling. Bollnow elaborates on this point, giving many examples of everyday use of related terms, demonstrating that the roots of the word are closely related to dwelling, to the orderly human environment. Thus "Raum" used with a definite or indefinite article always relates, e.g. as generic term for the rooms of a house, to buildings. Its use is not compatible with open-air locations (e.g. meeting-place). Without the article, it is also related to the human environment, meaning space for movement between things or objects. Only in a second stage does the concept of "Raum" appear with extended meanings ("raume" [= offener See, "Weltraum" etc.). Similarly related terms are always applied to objects of the human environment, e.g. Ort (punctuated localisation originally alluding to pointed things like spears (used as place markers?), pointed landforms like cape etc.1 or "Stelle" (basically related to some building construction, furniture) or "Fleck" (horizontal extension of

land, marketplace etc.).

This extremely convincing emphasis on the environmental origins of the notion of space is of far-reaching consequence, not only for architectural research and architectural theory, but also for our whole concept of man, insofar as our ontology, our metaphysics are based on primary cosmologies. In other words, Bollnow requires a dramatic reversion, an "implosion" of our modern space concepts! an implosion which, by the way, is already well established in ecology and animal behaviour studies (Uexküll), but not at all in architecture and urbanism.

Bollnow's following sections deal with directional elements of space. Here too, he ingeniously "deconstructs" established systems, e.g. axiality. The pairs suggested already by Aristoteles (above - below, in front - behind, right - left) are contraindications of homogeneity, particularly if they are not merely interpreted in terms of abstract linear axial systems, but are related to objective reality. Bollnow maintains that ground and air are two entirely different "half-spaces", necessarily complementary for human life. If the ground loses its quality of support, human existence is threatened. He refers here to Kirkegaard and his concept of anxiety. In their intrinsic relation with ideology and moral values, the two pairs, >front and back<, and >right and left< clearly show their close relation to cultural history, but obviously not in the anthropomorphous sense, as generally thought, but rather in relation to the spatial organisation of the environment.

Particularly important is Bollnows statement that there are zero- or fixed points in his humane space concept. He extensively describes the polarity of departing and returning to hereditary places (home) or temporary zeropoints (hotel room in foreign city) and postulates them as essential references within a subjective system of orientation. This he calls the "centre" of space.<sup>2</sup> "If we are moving out from our apartment to a new place, our whole world is newly reorganised from the new place." (:58)

This fundamental concept is then extended in triangular relations between individual, social and the hierarchical sys-

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<sup>2</sup>It has to be noted here, that the German word 'Mitte' unlike the English 'centre' does not necessarily imply centrality of a circle. Mitte can also imply halfway of a linear extension or 'Mitte' between two fields or two rooms.

terns of markers for such central points (dwelling, church/market, centre of city and state). In this system, Bollnow describes ancient ideas which interpreted such fixpoints marking "the centre of the world" or the "axis mundi". He also enumerates many concrete symbols related to such central fixed points (pillars, palaces, sanctuaries, sacred mountains) in many cultures. Following Haberland 1957 (Space concepts of natural societies) and Brunner (Regarding the notion of space in ancient Egypt), he explains phenomena of this type dualistically on the basis of the tensions between inhabited space and surrounding chaos and he classifies them - in sharp contrast to Eliade - as delimited space. This part, which refers to many examples of symbolic markers of such fixed points, is extremely important because it contains the seed of an ethnology of space.

Other directional systems are the four directions of the compass, which appear to be interpreted in very different ways among various cultures (Frobenius: golden pillars which support the heavens). Referring to Jensen (1947), he mentions the river as central system of orientation which, on a horizontal level provides important criteria like upwards and downwards, left and right in regard to the water flowing from the mountains towards lakes or the sea. Such directional systems may be absolutely puzzling for a modern mind (contradictory directions and lack of absolute compass). They make sense however, if, in the context of evolutionary expansion of space perception, it is assumed that such river-systems were of primary importance in regard for later systems related to solar movements. Thus with these descriptions too, Bollnow gives many hints for a programme of research into the ethnology of space concepts.

The overall conclusion of this main chapter: space is not at all homogeneous in its primary structure. Bollnow's arguments for the environmental origins of space conceptions are absolutely convincing. This becomes very important in regard to the second main chapter.

## THE WIDE WORLD

The second main chapter contrasts strongly with the first one, which dealt essentially with primitive space concepts rooted in the human environment, and in particular, related to the anthropology of dwelling and settlement. In three sections (>the vast, the foreign and the distant<, >the path and the street<, >the hiking-path<), Bollnow shows that the wide concept of space is clearly related to European cultural history. Further, there is another essential contrast. The first chapter deals with

localised, more or less permanent places, the second with movement .

Thus an important structural element appears in Bollnows oeuvre: he presents his concept of space in terms of complementary opposites. obviously this has to do with the subject he deals with: on whatever level, experienced space is structured according to complementary principles. **Bollnow** describes the "dynamics of back and forth" the "basic double movement of departing and returning" which articulates human space. This leads him onto the description of all kinds of paths, streets and ways and how space is perceived during movement along them.<sup>3</sup> Later we hear about hodological space: a type of space which is absolutely contrasted with mathematical space. Hodological space corresponds to the factual human experience on the way between two points on a map: thus it is absolutely different from the geometrical line uniting two points.

But another idea presented by **Bollnow** is of at least the same fundamental importance: space was not there from the beginning, as we assume with the Euclidian concept. It has evolved. As a concept related to human perception and culture, it was originally applied to settlement foundation, to the history of dwelling and subsequently developed by extension of the spatial perception of man.

**Bollnow** shows this with convincing arguments. Tremendous changes occurred at the beginning of our modern times. These changes are characterized by an historical key event: The poet Petrarca, climbing the top of Mont Ventoux in 1336, describes his grandiose experience of the endless skies. It is remarkable for the times that the description is not devoted to the outer extensions, but rather as they are reflected in his soul, that is to say, within his delimited physical interior. **Bollnow** relates this decisive change to what follows later: the discovery of planetary mechanics, the move away from conventional coastal navigation! the sudden courage to cross the oceans, the discovery of America and the strange traces of thought it left

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<sup>3</sup>Methodologically this is very important too. **Bollnow's method** is definitely inductive. He fundamentally questions the conventional deductive concept of homogeneous space by analyzing the full range of possible human experiences related to space. This method brings him into an enormous variety of spatial conditions, which however show some common traits, which can be generalized.

(West-Indies), the discovery of many far-away and exotic cultures, in short, the age of discovery.

In this context Bollnow hints at Sedlmayr's notion of the loss of the centre (>Verlust der Mitte<). Man's psyche lost its naive roots in his native place, in what formerly was believed to be the centre of the world. The position of man in this world was deeply questioned, annihilated in the face of the new spatial dimensions now suddenly perceived. Copernicus, postulating the spherical form of the earth, dissolved the former ptolemaic system which conceived the world on a disc surrounding the Mediterranean Sea. The antique identification with the local world became obsolete. The sun was now the centre of our planetary system and the skies dissolved into infinity. The famous woodcut-print showing the celestial dome pierced by an arm stretched out towards the infinite clearly depicts this revolutionary change of paradigms.

Most educated persons are more or less familiar with this great change of ideas, which in general appears naturally integrated into our conviction of progress. But hardly anybody reflects upon its implications: that space concepts were originally limited to very restricted environmental conditions. We have already indicated the consequences: it would not only mean a total revision of architectural theory. Much more. Someone familiar with the cultural implications of space will easily guess that this approach will pull down many a famous philosopher from his high pedestal. It will question our idealistic metaphysics and our theology with its primary cosmological concepts of creation.

Bollnow also describes this change as it is reflected in Baroque architecture. There is an ecstasy of endlessness. Enclosures of architectural space are disguised with all kinds of means (plastic decorations, mirrors etc). Perspectives leading through endless series of halls and rooms abolish clearly defined limits. Ceilings are opened at the top towards the skies. And, as in the case of Petrarca, the perception of infinite space happens by interlinking opposites, that is to say, of closed and open spaces.

Vastness is the opposite of narrowness. Here too Bollnow uses polar opposites to define his terms, showing that both can be used at quite different spatial levels. Clothes can be narrow, but so too an apartment, a town, landscapes, a valley; and all can be contrasted with their spacious opposites. Distant foreign space also makes sense only if contrasted with what is close at hand and familiar. Bollnow cites Rilke, Hesse and particularly Nietzsche, who all voted for a balance between the distant and the near at hand, between the unknown and the known

in regard to the formation of human personality and character.

A long discussion is then devoted to various types of paths, streets, **ways**, which at any level imply the movement of man. Animals too have paths on which they move outwards and return to their fixpoint. Streets often develop from simple foot-paths: sometimes over very short, sometimes over long periods of time. Streets attract traffic, they develop with **technology**. Originally they were strictly bound to landscape. Modern technology allows a higher **degree of independence**.

Bollnow's **typology** of movement outside the house is very complex and brings many valuable insights, particularly if compared with the poor stereotypes of architectural literature (Alexander: community and privacy!). But the fundamental insight that Bollnow presents to us here is the following: he describes how networks for mobility influence our experience of space. The streets of a city acquire a certain autonomy, create their own spatial conditions, engender a homogeneous landscape of their own. Linschoten also characterised the space of pathway as "non-cultivated space", or, more drastically, as a kind of desert. The system of streets is no longer directly related to this or that house, it forms a supra-individual type of space. It is neutral, but has its own objectivity insofar as it forms the communal system of spatial communication. The individual loses his domestic imprints, becomes anonymous. Similarly, the landscape loses its individuality, e.g. if perceived from the window of a moving car. New principles prevail: efficiency, conditions of the roads. Signs and place names are needed for orientation of the traveller unfamiliar with the local environment.

"Each street leads to the end of the world." According to Linschoten, the street is excentrically related to dwelling space. It is the expression of a world in which man is no longer quite at home. On the other hand, many symbolic and philosophical concepts are related to the path, the road, as a human condition (Tao, china, man as an eternal wanderer who never finds a permanent resting-place). Throughout the book, Bollnow emphasises these two aspects: man as a dweller and wanderer, as a centric and excentric being. And he elaborates the idea in several following paragraphs, using either phenomenological **reflexions** or discussing literary sources. But here we want to avoid too much detail and will turn to the third main chapter.

## THE HOUSE AND THE FEELING OF SECURITY

The first main chapter, which dealt with the evolution of man's close spatial environment, remained rather theoretical. Now **Bollnow** regains his grip on the same theme in a very concrete sense: the house is discussed, architecture comes in. The titles of the main section are: >the meaning of the house<, >the sacred space<, >cosiness<, >door and window<, >the bed<, >waking up and falling asleep<.

**Bollnow** cites several authors who characterised the house as the centre of the world. This mythical concept of an axis mundi had to be abandoned in exchange for the larger dimensions of space in the sense discussed above, but it was widely preserved on the level of the house. Today modern society will have to realise once more that dwelling is a basic condition of man. It provides much more than mere existence. **Bollnow** critically refers to the existentialist, who conceives himself as an eternal foreigner, thrown at random into the world. But dwelling, according to **Bollnow**, means to be at home, that is to say, in a particular place, and this implies special conditions. Many notions related to the house express a feeling of security and protection.

**Bollnow** goes even further, postulates an "anthropological function of the house" in the whole context of human life: a feeling of security is essential for the self-identification of man. Only as a dweller can he find his own essence and be fully a man. Without his dwelling, "the inner destruction of man is unavoidable." (:136) He refers to Goethe, who, in his *Faust*, considered a man deprived of a dwelling to be a "non-human being, without purpose or rest." **Bollnow** indicates that the "anthropological function of the house" has to be rediscovered again. After the breakdown of many conventional systems, any allusion to security has become suspicious. Contrary to **Schiller**, who neglects the house and thinks that man must confront his hostile outside world, **Bollnow** postulates the polar balance of excentric tension in the outside world and centric tranquillity in the protected house. According to him, this balance is the prerequisite for human health.

The following paragraphs deal with the close relationship between sacred space and the protected space of the house. Even the profane concept of Le Corbusier's "dwelling machine" could not destroy this sacred meaning, which finds expression in individual and social control with regard to the private sphere. Nobody is allowed to enter a dwelling without the dweller's consent. Private space is legally protected. "House and temple are essentially one" (Van der Leeuw).

Extremely enriching are Bollnow's descriptions of the objective elements which guarantee the privacy of the house. Any dwelling space requires openings towards the outside, otherwise interior rooms become prisons. The "semipermeability" of the door allows opening and closing. The one who occupies or owns the dwelling decides when and to whom he opens his door. This provides a personal freedom to retire into one's own domain. The dweller differentiates between friends, who have access, and strangers who are kept out. Essential for this social mechanism are the lock and the key. Further, for such reasons, traditional belief has endowed the threshold with a very high value. Today these values are lost, because security is guaranteed at higher social levels (city, state).

The window is not just a device to let in the daylight; it is also "the eye of the house", which permits us to observe the outer world. Often this mutual relation is filtered. Curtains allow a view to the outside without the observer being seen. Bollnow also hints to the meaning of the window in romanticism and in some writings of Rilke: a frame which gives the outside section a particular meaning.

An extremely important element in Bollnow's anthropological consideration of the house is the bed. The hearth has lost its meaning as the centre of the house. Later it was partly replaced by the table for family meals. But even today the most important centre is the bed. In the morning it is the starting point for going to work outside and in the evening the returning point after a busy day. Further, it is the most intimate domain of the house or of an apartment, in general it is not accessible to visitors. This daily cycle of going and coming is reproduced at the level of the life cycle: man is usually born in a bed and will die in bed.

There is an interesting cultural history of the bed, starting with such simple devices as the primitive hole filled with straw as a place for sleeping to more stable arrangements, e.g. the four-poster bed, a fully fledged house within the house.

These outfits relate to a physical polarity of man which Bollnow describes in great detail and in terms of its complex relations: standing and lying, physical activity and rest, muscular tension and muscular relaxation, conscious perception of the environment and cessation of all sensual relations during sleep. Bollnow attributes great importance to these polar relations and carefully describes transitional stages: waking up and falling asleep. He provides very interesting observations in regard to the daily reconstruction of the personal spatial world and its dissolution in favour of the unconscious state while sleep-

ping at night. Having read all these very plausible descriptions of basic human conditions, the reader will be horrified about the artificiality of modern principles of design and about architecture having forgotten all these elementary relations of man and space.

## ASPECTS OF SPACE

This main chapter gives a kind of **typology** of spaces related to particular forms of human behaviour (>hodological space<, >action space<, >present or momentary space<, >human space for living together<) or more related to environmental conditions (>day-space< and >night-space<) or between both (space of good or bad mood).

The term >hodological space< is derived from Greek 'hodos', path, way. In contrast to the mathematical concept of space as presented on maps, plans etc. >hodological space< is based on the factual topological, physical, social and psychological conditions a person is faced with on the way from point A to point B, whether in an open landscape or within urban or architectural conditions. Bollnow gives many interesting observations on the cultural implications of hodological distances as compared and contrasted with geometrical distances (language and culture in mountain valleys; traditional traffic conditions in mountainous regions; the structure of war-landscape with its absolute focus on the front). But of particular importance is his description of, the "cave-character" e.g. of an apartment. In the architects plan of a housing project, two points in two different apartments located side by side may be just some 30 or 40 centimeters apart (separated by wall), but in the hodological sense, these two points might be worlds apart. In extension of the hodological concept! Bollnow distinguishes and describes >the space of action< which is a three-dimensional ergological concept of space, structured and organised according to any type of human work (stockroom, warehouse, craft, place of study, library etc.; see Heidegger's notion of "Zuhandenheit").

Remarkable in this context are Bollnow's genetic observations on this type of space: spatial environments are organised by individuals to only a limited extent. We all are born into them, learn to understand the intrinsic values that govern them and adapt to them in terms of 'orderly behaviour'. Dilthey's suggestion of interpreting such orderly space as 'objectivated mind' in the sense of Hegel is of great significance for architecture, but - if architecture is taken as a continuum of

anthropological dimensions - it cannot be discussed merely on a philosophical level.

>Day-space< is sight-space. >Night space< is basically grope-(touch?) and hear-space (Sight is dissolved). Within these extremes **Bollnow** marvellously describes the very differentiated spectrum of twilight-, dusk- and half-light spaces: the paradoxical character of the woods, free for walking anywhere but closely limited with regard to sight: like a shade the narrow space accompanies the wanderer. Similarly fog, heavy snowfall and dusk entirely change the conditions of space. "The night created thousand monsters" says Goethe.

The >space of good or bad moods< relates to various external conditions (>narrowness and expanse<, >the sensual and moral effects of colour<, >interior spaces<) and internal conditions (>the stifling space of the fearful heart<, >euphoric space<). **Bollnow** fills these concepts richly with citations from literature, scientific discussions (e.g. **Binswanger**) and his own reflexions.

The section of >momentary or present space< deals mainly with the phenomenon of dancing and how it relates to spatial experiences.

Very striking is **Bollnow's** description of >the space of human living together<. On one hand there is the merciless >fight for living space< which produces clear spatial barriers and creates rivalries among humans. on the other hand, there is the >space-producing force of love< and the strange phenomenon that >loving living together< does not increase space in terms of quantity: lovers share the same space; they create themselves a home.

## SPATIALITY OF HUMAN LIFE

## II

This fifth main chapter gives a theoretical synthesis of what has been found during the preceding chapters. There are three sections (>to be in space and to have space<, >types of individual space<, >summary and prospect<). Initially **Bollnow** questions the concept of perceptual psychology (intentional space) and gives his own definition of space as an ambivalent "medium" which is dialectically constructed between subject and environment, between human (physical and psychological) dispositions and environmental conditions.

The main discussion questions the existentialists' position (**Heidegger**, **Sartre**) of being 'thrown' into the world. **Bollnow**

summarizes his own findings, maintains that dwelling implies having roots somewhere, means to be at home and protected at a particular place, and that the spatiality of man in general can be interpreted as \*dwelling". He then presents his own typology of >individual space<(Eigenraum) consisting of >three domains of dwelling< (>body<, >house< and >open space<) and finds his standpoint supported by behavioural studies of zoology and animal psychology (Uexküll, Hediger, Peters, Portmann; animals do not live freely in a homogeneous space, but have fixpoints within defined territories from which they depart and to which they return for rest and protection).

The summary gives four modified stages of human spatiality: a primary naive spatial confidence, the feeling of security like that of a child. This is contrasted with the fear of homelessness, which gives the feeling of being lost. This again has to be countered by the institution of the house to provide protection, but since any such protection is not absolute, the consciousness of a higher level of security in larger spatial dimensions is of importance.

Obviously Bollnow's philosophical standpoint opposes existentialism's giving priority to "protecting space". Together with Bachelard he considers the "conscious metaphysics" of the existentialists to be secondary: "The house . . . is the primary world of human existence. Before he is 'thrown into the world', . . . man is laid into the cradle of the house."

## CONCLUSIONS

At the beginning of our paper we said that Bollnow's study is a revolutionary contribution to our understanding of space. This was meant in allusion to Thomas Kuhn and consequently we will have to list the implied paradigms for change.

Basically a phenomenological study, Bollnow's book is essentially synchronically structured. But it has strong diachronical traits. We hinted this before: he relates the origin of conscious space perception to the narrow environmental conditions of dwelling and settlement history and contrasts it sharply with the vast geographical and cosmological concepts which developed in Europe from the 14th century on and throughout the Age of Discovery. Basically this questions all concepts of cultural anthropology which maintain that spacious cosmological dimensions are related to early conditions of mankind.

Synchronically Bollnow describes a vast spectrum of be-

havioural, psychological, environmental conditions of man's relation to space. The result, this most heterogeneous spectrum of phenomena, clearly questions the conventional concept of homogeneous space.

In showing space perception as an evolutionary process and a highly complex phenomenon, as an object worth of study, as a phenomenon showing a tremendous richness of conditions, **Bollnow** critically unmasks the poverty of today's architects' tools and their stubborn arrogance in believing that they can be creative without research.

Methodologically, it must be emphasised that **Bollnow** works inductively. From this side too the conventional, historically deduced space concept is questioned. He unmasks it as a fiction: space is a very heterogeneous medium with different levels of dispositions, impacts on man and reactions of man, which can only be grasped in complex analytical approaches. Certain generalisations are revealed: at various levels space is structured in complementary opposites (near/far; rest/motion; **central-re/excentric**; night/day etc.). Paradoxically, **Bollnow's** method seems to uncover age-old truths (s. Yin-Yang concept of space) which were seriously distorted by the deductive methods of our pseudo-science of the humanities.

Culturally, **Bollnow** is essentially focussed on the European tradition, but his work contains many explicit seeds for the extension of his program into ethnology and anthropology of space. If, maybe in the near future, architectural anthropology is established as a fully-fledged research discipline worldwide at architectural schools, he might be considered the founder or father - his humanistic anthropology of space the first foundationstone - of the newly built house.

In regard to the relatively recent rise of ecology as a science closely related to space (including subfields in zoology and botany), **Bollnow** hints at the highly problematic artificiality of the modern concept of space. From the 14th century it exploded like a volcano and covered the whole world with its ashes (religion, economy, science, architecture etc.) - At many levels **Bollnow** provides the framework of a countermovement: the "implosion" of a more human, more locally engaged concept of space which could also become important in architectural design (e.g. against European modernism in Asian and third-world cities!).

Since house, settlement and space are the conventional professional domain of the architect and builder, he may realise, that, from the beginnings of culture, he has always been the actual demiurge, the creator of the human world. Once he has

realised this tremendous responsibility, he might discover that - with an anthropologically reconstructed human constructivity and the evolution of space concepts - he owns the scientific instruments to search for a more humane world.