
OTTO FRIEDRICH BOLLNOW'S ANTHROPOLOGICAL CONCEPT OF SPACE

A revolutionary new paradigm is under way⁽¹⁾

By Nold Egenter

Living essentially means dwelling."
(Bachelard)

The world is a nest."
(Bachelard)

PREFACE

Our modern world, whatever it says and does, always is essentially based on the idea of a homogeneously extended space, which expands from where we are to the endless infinity of the universe. This extension is so immense that it may take years for the light of a newly born star to reach us. This consciousness of an enormous universe in which our considerably large globe is just a miniature small sphere evidently influences our modern everyday feelings about space in various respects. However, this conceptualization of space is not ancient. It is a result of numerous discoveries only made possible by modern instruments. But to us nowadays this notion has become so self-evident, it is impossible to imagine that it ever was otherwise.

However, this kind of collective 'oblivion' becomes highly problematic when it comes to translating texts handed down from ancient societies to our times. The same problem arises in ethnology, when we communicate with peoples living on the edges of our modern world and who probably have very little understanding of this modern interpretation of space. In most cases, scientists are not even aware of the problem. As historians, they translate ancient texts (or, in the case of ethnologists, interpret questionnaires) as if these populations living in much smaller worlds had the same perception of space as someone living in our modern industrialized world. If such translations were made for the pure fun of it, this might be acceptable. Yet in various disciplines, these translations form the basis of specific theories essentially contributing to the definition of our social existence, for instance in religion, when we talk about creation, in philosophy, when we discuss metaphysics. The same applies to art with regard to aesthetics, when we talk of beauty, or in architecture, when houses, settlements, or cities are planned. In all these domains, space is an absolutely primary component. It makes a tremendous difference whether ancient myths and stories of creation are seen from a perspective of modern concepts of the universe or whether they are related to environmental, or settlement conditions of early history. Likewise, whether one discusses metaphysics within a framework of idealistic philosophy, which - naturally based on similarly interpreted ancient texts! - allows its ideas stream into the infinite cosmic spaces, or whether one seeks for environmental and anthropological 'circumstances' for the origins of metaphysics. It also makes a tremendous difference whether one evaluates objects of art according to a historically supported aesthetic concept of the Platonic-cosmological kind, or whether one strives to understand the notion of beauty anthropologically within the concrete human tradition. In architecture, the situation is even worse: maybe architects force men - on a worldwide level - into a wrong spatial corset.

O.F. Bollnow's book 'Man and Space' provides this new standpoint by confronting the physical-mathematical conception of space with the anthropological dimensions of space. If this anthropological theory of space were used on a broad basis, that is to say in prehistory, history, and ethnology, or generally in the humanities, then, most of what our 'intellectual sciences' (humanities) had accumulated over centuries would have to be written anew.

Crucial, in a scientifically methodological sense, is that if, with Bollnow, space, in its primary conception can no longer be conceived as an infinite void but as a human and ecological implant into what we nowadays consider homogenous space in physical terms, then space essentially becomes pluralistic and qualitatively bound to human environments. From an anthropological perspective, its structure can now be researched inductively, as closely related to human experience and behaviour. Basic and 'universal' metaphysical terms are now down-to-earth, entering the human domain, their concrete cultural tradition. Bollnow thus represents not only individually, but also scientifically, a revolution. In Thomas Kuhn's sense, he has introduced a new paradigm, which will, however, not manifest itself in this or that branch of this or that discipline alone. Rather, in this case of Bollnow's anthropological concept of space, we are dealing with a paradigm that will revolutionize our modern scientific 'tree of knowledge' from top to bottom.

INTRODUCTION

Space still is one of the primary aspects 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 a child's concept of space ('ontogenetical aspects of space conception') and, in its socio-cultural aspects ('phylogenetic problem of space conception'), was inspired by many previous studies. Evidently, most important as stimulating precursors were the well-known historian of religion, Mircea Eliade, the

art historian Dagobert Frey, and the philosophical phenomenologist Otto Friedrich Bollnow.

Norberg-Schulz's existential alternative to the Euclidian concept of space had no real influence on architectural design, mainly for the following reasons: he used the results of these works rather arbitrarily to support his own concept of architectural space and, secondly, the discussion was obscured by postmodern rhetoric.

In this context, Bollnow's book 'Mensch und Raum' (Man and Space, 1963) is most important. His work can be considered the first to deal with the 'anthropology of space' in a comprehensive manner in ontological and intercultural terms. The book clearly assigns a secondary position to cosmologically or metaphysically extended space and a primary position to the ordering of space as developed in human settlements. Further, Bollnow put man and his complementary need for movement and rest at the centre of his spatial concept. Space in this sense becomes heterogenous, which is expressed in many observations closely related to building. "The anthropological significance of the house has to be rediscovered today" (:137). The fundamental and far-reaching significance of this approach for architectural research is evident.

Surprisingly however, Bollnow is hardly known, particularly among architectural researchers. In comparison to Heidegger's widely and intensively discussed studies related to building and space, he is rarely quoted. His systematic research has not been given the attention it deserves. In some cases, he is not even mentioned in thematically related research and studies where his immediate influence is evident. Most often, however, his revolutionary contribution to the discussion of space is simply overlooked. Unfortunately, the book has not been translated into English or French.

To clarify this situation and to contribute to a wider diffusion of Bollnow's fundamental thoughts, the present paper reviews Bollnow's important approach, trying to give an idea of his most important and, to some extent, quite ingenious and epoch-making achievements. ² In general, we follow the structure of his book.

BOLLNOW: METHODS 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, Merleau-Ponty, and Minkowsky all had 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 focusing 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 Duerckheim, Minkowsky, Straus, Binswanger, Lassen, Beutendyk, Bachelard and - in other ways - to Cassirer's philosophy of symbolic forms.

Bollnow's methodology is closely related to that of phenomenology. Norberg-Schulz considers his book to be speculative and nonscientific, 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 is concerned with the description of phenomena, being convinced that, with well-founded reflections, the studied object will reveal its pure essence. And, in fact, Bollnow, by describing space in close relation to human behaviour and environmental conditions, seems to have discovered the essential structure of space. Obviously, this can also be valuable in an anthropological sense.

In a stark contrast to Norberg Schulz's concept, which is to some extent still anchored in conventional architectural rationalism, Bollnow's outlook is deeply humanistic in that it places man and his immediate environment at the centre of everything he describes. He thus manages to present an enormous variety of new insights which contrast greatly with the poverty of the spatial concepts of present architectural design. In fact, one is tempted to imagine how much different architecture would be today, if, instead of postmodernism, Bollnow's concept of anthropological space had become the basis for architectural reasoning of the last three decades.

Bollnow's 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 subject 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 Romance 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 Romance 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. ³

Further, Bollnow deals extensively with the philosophical discussions of his time in so far 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 part 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' / 'The Spatiality of Human Life'. Trying to preserve the basic structure of Bollnow's book, we will, in the following, outline in short his most important thoughts - as far as this is possible, after all, his book is of more than three hundred pages.

THE ELEMENTARY ARTICULATION OF SPACE

In his first main chapter, Bollnow uses various 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 the history of human settlements.

History

Space is not homogeneous, but articulated. There is a suggestion of this in Aristotle's 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, that each of these elements show a natural directionality, e.g., upwards in the case of fire and light things, and downwards with regard to earth or heavy things. Bollnow emphasizes 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 to a container. Conclusion: Aristotle's view is never one of endless mathematical space but is limited in its utmost extension to "the void delimited by the heaven's vault." (:30)

Etymology

That space was originally delimited is also suggested by the etymology of the German word "Raum". Grimm derived it from the corresponding verbal form "raumen", to clear a part of the wilderness with the intention of settling 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" [= offene] See, "Weltraum", etc.). Similarly related terms are always applied to objects of the human environment, e.g., "Ort" (punctuated localization originally alluding to pointed things like spears (used as place markers?), pointed landforms like cape, etc.) 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 has far-reaching consequences, not only for architectural research and architectural theory, but also for our whole concept of man, in so far as our ontology, our metaphysics are based on primary cosmologies. In other words, Bollnow advocates 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 (Uexkuell), but not at all in architecture and urbanism.

Directional elements and axiality

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 Aristotle (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 to human life. If the ground loses its quality of support, human existence is threatened. He refers here to Kierkegaard 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 anthropomorphic sense, as generally thought, but rather in relation to the spatial organization of the environment.

Fixed points

Particularly important is Bollnow's statement that there are zero or fixed points in his humane concept of space. He extensively describes the polarity of departing and returning to hereditary places (home) or temporary zero points (hotel room in foreign city) and postulates them as essential references within a subjective system of orientation. This he calls the "centre" of space. 4 "If we move out of our apartment to a new one, our whole world is newly reorganized from the new one." (:58)

The social and spatial hierarchy of centre-markers

This fundamental concept is then extended in triangular relations between individual, social, and the hierarchical systems of markers for such central points (dwelling, church/market, centre of city and state). In this system, Bollnow describes ancient ideas which interpreted such fixed points 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 ('Space Concepts of Natural Societies'; 1957) and Brunner ('Regarding the Notion of Space in Ancient Egypt'; 1957), 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.

River and compass as systems of orientation

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 supporting heaven). Referring to Jensen (1947), he mentions the river as the central system of orientation which, on a horizontal level, provides important criteria like upwards and downwards, left and right, with regard to the water flowing from the mountains towards lakes or the sea. Such directional systems may be absolutely puzzling to 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 with regard to later systems related to solar movements. Thus, with these descriptions too, Bollnow gives many indications for a programme of research into the ethnology of space concepts.

Conclusion

Thus the first main chapter essentially deals with primitive space concepts rooted in the human environment and, in particular, related to the anthropology of dwelling and settlement. The overall conclusion: 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 with regard to the second main chapter.

THE WIDE WORLD

The second main chapter contrasts strongly with the first. The first part essentially deals with localized, more or less permanent places. In the second part three sections ('the vast, the foreign, and the distant', 'the path and the street', 'the hiking-path') deal with spatial extension and movement.

This leads us to an important structural characteristic within Bollnow's work. He presents his spatial concept in complementary oppositions. Evidently this has to do with his subject. On whatever level, experienced space is structured according to complementary principles. Bollnow describes the dynamics of "back and forth", the "fundamental double movement of going away and coming back" which articulate human space. This leads him to the description of all kinds of paths, ways, and roads and how space along such movements is experienced. ⁵ Later we hear about the "hodological" space. This is a type of space which differs absolutely from mathematical space. Path-space or hodological space, corresponds to the factual human experience during movement between two different points on a map. It is absolutely different from the geometrical line which connects two points.

There is an additional revolutionary concept in Bollnow's work. Space was not there from the beginning, as we assume with the Euclidian concept. Space in the human sense has evolved. As a concept related to human perception and culture, it was originally closely related to dwelling and settlement and subsequently developed by extension of the spatial perception of man.

Bollnow demonstrates 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 Petrarch, climbing to the top of Mont Ventoux in 1336, describes his grandiose experience of the endless skies. It was remarkable for the times that the description was not devoted to the outer extensions, but reflected in his soul instead, 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 (West Indies), the discovery of many faraway 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 seriously questioned, annihilated in the face of the new spatial dimensions now suddenly perceived. Copernicus, postulating the spherical form of the earth, disproved the earlier Ptolemaic system which conceived of 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 concept 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. More than that. Anyone familiar with the cultural implications of space can easily understand that this approach hurls many a famous philosopher from his high pedestal. It will question our idealistic metaphysics and our theology with its primary cosmological concepts of creation.

Baroque architecture and the ecstasy of infinity

Bollnow also describes this change as it is reflected in Baroque architecture. There is an ecstasy of infinity. 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 Petrarch, the perception of infinite space happens by interlinking opposites, that is to say, of closed and open spaces.

Vastness and narrowness

Vastness is the opposite of narrowness. 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 quotes Rilke, Hesse, and particularly Nietzsche, who all favoured a balance between the distant and the near at hand, between the unknown and the known with regard to the formation of human personality and character.

Typology of movement outside the house

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 "fixed point" (Hediger). Streets often develop from simple footpaths, 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 gives 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 characterized 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 in so far 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.

"All roads lead to the end of the world." According to Linschoten, the street is ex-centrally 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 emphasizes these two aspects: man as dweller and wanderer, as a centric and ex-centric being. And he elaborates the idea in several of the following paragraphs, using either phenomenological reflections 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 deals with the evolution of man's close spatial environment, is 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'.

The house has preserved archetypal values

Bollnow quotes several authors who characterized 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 realize once more that dwelling is a basic condition of man. It provides much more than mere existence. Bollnow critically refers to the existentialist, who thinks of 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.

The anthropological function of the house

Bollnow goes even further, postulating an "anthropological function of the house" within the whole context of human life: a feeling of security is essential for the self-identification of humans. Only as a dweller can he/she find his/her own essence and be fully human. Without his/her 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 "nonhuman being, without purpose or rest." Bollnow indicates that the "anthropological function of the house" has to be rediscovered. 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 ex-centric tension in the outside world and centric tranquillity in the protected house. According to him, this balance is the prerequisite for human health.

Sacred space

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).

Filters for protection

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 prison cells. 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 the 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 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 points out the meaning of the window in romanticism and in some writings of Rilke: a frame which gives the outside section a particular meaning.

The bed

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 as the scene of 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 usually dies 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 fourposter bed, a fully fledged house within the house.

The phenomenology of waking up and falling asleep

These furnishings 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 attaches great importance to these polar relations and carefully describes transitional stages: waking up and falling asleep. He makes very interesting observations with regard to the daily reconstruction of the personal spatial world and its dissolution in favour of the unconscious state while sleeping at night. Having read all these very plausible descriptions of basic human conditions, the reader will be horrified by the artificiality of modern principles of design and by architecture devoid of 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 moods').

Hodological space

The term 'hodological space' is derived from the Greek word '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 an apartment and, e.g. its "cave-like character". In the architect's plan of a housing project, two points in two different apartments located side by side may be just some 30 or 40 centimetres apart (separated by a wall). But, what somebody goes through in terms of physical and psychological stress, to go from one of these points to the other, this is described very impressively by Bollnow. The vital condition of the hodological relation might be tremendously different from that of the architect! In short, Bollnow presents an important lesson for architects and designers, which should teach them to think a little bit more while drawing with their pencils.

The space of action

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 organized according to any type of human work (stockroom, warehouse, craft, place of study, library, etc.; see Heidegger's notion of "Zuhandenheit").

Bollnow's genetic observations on this type of space are remarkable: spatial environments are organized 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'. We all know to some extent the requirements of "good upbringing" (in German: 'gute Kinderstube', 'sie ist aus gutem Hause'). Dilthey's suggestion of interpreting such orderly space as an 'objectified 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 and night space

'Day space' is sight space. 'Night space' is basically touch and hearing space (Sight is ineffective). Within these extremes, Bollnow marvellously describes the very differentiated spectrum of twilight, dusk, and semi-dark 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 a thousand monsters" says Goethe.

The space of good and bad moods

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 richly fills these concepts with quotations from literature, scientific discussions (e.g. Binswanger) and his own reflections.

Present space

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

The space-producing force of love

Very striking is Bollnow's description of 'the space of humans 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 'creation of space through the force of love' and the strange phenomenon that this 'living together of lovers' does not increase space in terms of quantity: lovers share the same space; they create a home for themselves.

SPATIALITY OF HUMAN LIFE

This fifth main chapter gives a theoretical synthesis of what was 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.

Against existentialism

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 (Uexkuell, Hediger, Peters, Portmann; animals do not live freely in a homogeneous space, but have fixed points within defined territories from which they depart and to which they return for

rest and protection).

Four modified stages of human spatiality

The summary indicates 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 is countered by the institution of the house to provide protection, but since no protection is 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

We have followed the essential lines of Bollnow's study on 'Man and Space', trying to give an impression of his large and profound study as far as this is possible with a book of more than 300 pages. It has been clearly shown that Bollnow's home is philosophy, in particular phenomenology with its admirable curiosity for the many aspects of this important theme. On the other hand, Bollnow does not give the impression that studies of human experience of space is merely a philosophical problem. On the contrary, he extends his research into psychology, into human behaviour and the conventional domains of architecture: dwelling in a building, in an apartment, in a house.

At the beginning of the present paper, we hinted at the fact that, together with the studies of Mircea Eliade and Dagobert Frey, O.F. Bollnow's study on man and space had entered the realm of architectural theory, Norberg-Schulz being the mediator. Consequently, we want to emphasize here the achievements of Bollnow for architectural research in seven points as follows.

It is in this line close to architectural theory that Bollnow perhaps contributed most by presenting a wide research programme directed towards an 'anthropology of space', towards an 'anthropology of dwelling', an 'anthropology of building'. In the following we try to list his seven main achievements:

1 *The archaic concept of space is related to the foundation of dwellings and settlements:* based on the German etymology of "Raum" (space) and other related terms, Bollnow plausibly shows that the notion of space was originally closely related to the narrow environment of the foundation of settlements. The conventional use of such terms too, is closely related to dwelling, to constructed objects, to building.

2 *Global and cosmological space concepts are a secondary development:* The global and cosmologically infinite concept of space is a very late idea in European history: it begins in the 14th century and develops with the modern history of discovery and science. Historically, large spatial origins become fictions. Early ideologies have to be reconstructed in their local environment. Metaphysically founded theories of creation become highly questionable. The study of archaic settlements may thus become extremely important in reconstructing a new non-Eurocentric anthropology.

3 *Space in the anthropological sense is not homogenous:* Bollnow presents space as a perceptual development between man and environment. Anthropologically, the conventional (deductively postulated) concept of homogenous space becomes a fiction: there are numerous spaces. Bollnow describes a large spectrum of spaces related to resting and dwelling and moving along paths, deals extensively with day and night spaces, euphoric space, momentary space, etc. Thus, Bollnow presents not only an overall system of general reference, but also a rich catalogue of descriptions, problems, assumptions, and hypotheses for research in spatial concepts of man.

4 *Space is basically related to dwelling:* space shows existential poles. The house or the dwelling is the most important centre of man's daily life, as opposed to the mobile and anonymous exterior. Humans absolutely need this protection provided by their dwelling; they particularly need the place to sleep provided by their dwelling. The place where they dwell forms the fixed point in their more or less stationary existence and is the point of daily return after their daily activities outside the house. Here too, Bollnow presents a whole catalogue of convincing hypotheses about multispatiality of living and dwelling in and around the house.

5 *Anthropological space is expressed in polar relations:* Bollnow uses a quite surprising new type of thinking, namely relational. He does not clearly define space as this or that, but shows how various domains are related in human existence, that human existence is a kind of rhythm between contrasting poles. He thus constructs a highly complex 'theory of relativity' of polar or complementary relations of spatial activities and experiences. Environmental and human conditions structure space in polar relations. It seems that Bollnow has discovered a very ancient and deeply rooted truth of our spatial existence.

6 *Closely related to Mircea Eliade, but in opposition to his religious interpretation, Bollnow maintains that archaic space was centred and that such 'centres of the world' were marked:* the historian of religion Mircea Eliade has analyzed structural principles in the world concepts of many archaic religions but interpreted them as based on "revelation" (hierophania) and thus remained in the conventional domains of metaphysics and theology. In sharp contrast to Eliade, Bollnow, following his main thesis of the environmental origins of space concepts, emphasizes the spatial aspects of such religious phenomena and focuses on a wide spectrum of objective and architectural elements related to such "centres of the world" or "axis mundi". He thus provides the fundament for objective or inductive topographical or architectural studies in religion.

7 *Space (including dwelling and building) is an important subject of philosophical and anthropological research:* Bollnow's rich and detailed study exercises a strong fascination. Absolutely fundamental philosophical and anthropological insights are developed on the basis of observations in our own close environment. And his arguments are absolutely convincing. We realize that the quasi-religious zeal of the historian has prevented us from experiencing and reflecting on one of the most important human conditions: space and dwelling as a worldwide human and cultural reality.

If, in the near future, many will realize the spatially and consequently spiritually 'exploded' fictions of the European humanities, and Bollnow will be honoured as one of the essential founders of a spatially 'imploded' anthropology. Those who realized what richness

this book had when it was first published in 1963 will doubtless agree that Bollnow can be considered the father of spatial and architectural anthropology.

NOTES

1 This paper, entitled 'Otto Friedrich Bollnow's Anthropological Concept of Space', was first presented at the 5th International Congress of the 'International Association for the Semiotics of Space', Hochschule der Kuenste Berlin, June 29 - 31, 1992, and, shortly afterwards, was given in a slightly modified version at the symposium on 'The Ancient Home and the Modern Internationalized Home:Dwelling in Scandinavia', University of Trondheim, Norway, August 20-23, 1992. This modified version bore the title: 'Otto Friedrich Bollnow and the Ontology of Home and Movement Outside. Euclidian Space, Human Behavioural Space and the Harmonious or Polar Space Concept. Suggestions for the Revival of Fundamental Discussion of Concepts of Space'.

2 The author is convinced of the anthropological significance of Bollnow's concept of space. He arrived at similar conclusions in his own research, particularly in his studies on architectural ethnography (semantic and symbolic architecture in the framework of Japanese village Shinto rites), ethnology (concepts of dwelling, territory, and space among a traditional population of hunters and gatherers, the Ainu) and primatology (research into fundamental phenomena of architectural theory:the nest-building behaviour of the higher apes).

3 See R. Meringer:Etymologien zum geflochtenen Haus ('Etymologies Regarding the Woven House'). In: Abhandlungen zur germanischen Philologie. Festgabe fuer Richard Henzel. Halle a. S., 1898.

4 Unlike the English term 'centre', the German word 'Mitte' does not necessarily denote the centricity of a circle. 'Mitte' can also mean halfway on a linear extension, or 'Mitte' in the sense of 'threshold', e.g., between two fields or two rooms.

5 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 provides him with an enormous variety of spatial conditions, which, however, show some general traits.