Building and Re-building Sustainable Communities

Reports from the Superbs project
2. Garden City Urban Patterns

Rediscovering garden city principles and applying them in new neighbourhoods – the Suchy Dwór area in Gdynia, Poland

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2.1 THE GARDEN CITY MOVEMENT

2.1.1. New approaches to residential development
The residential environment had been evolving harmoniously from the Old Stone Age to the turn of the century 1900, when the rapid industrial development, and overcrowding of the cities, necessitated urgent, revolutionary solutions to housing shortage problems.

As man is primarily a social animal, the earliest nomadic societies organized their shelter grouping around protected common space fostering first pre-urban settlements. The sequence of dwelling forms and arrangements representing development of societies with changing socio-economic background illustrates the evolutionary process that gave rise to urban clusters and the emergence of the cities. However the development was a very slow process. The adaptation of indigenous rural dwelling to new urban conditions was gradual and complementary to psychosocial needs and economic forces.

The rapid industrial development of the 19th century caused an enormous increase in the urban population. The consequences were a dangerous and unhealthy overcrowding of cities and the depopulation of rural districts. Thus the historic equilibrium between town and country had been destroyed by stressing manufacturing over agriculture. The sense of balanced environment and integrated social order made the 19th century reformers move beyond being concerned with the slums to proposing new cities.

2.1.2 The Garden City movement around 1900
In 1898 Sir Ebenezer Howard wrote Tomorrow: The peaceful Path to Real Reform (known since 1902 by the title Garden Cities of Tomorrow). In his book he proposed a solution to the problem of urban degradation, which was a
result of the Industrial Revolution and the enormous growth of population, visually. The Garden City is laid out in a circular plan divided into six wards by six main streets (Fig. 2.1). A circular space at the centre contains a garden surrounded by public buildings such as a town hall, concert hall, theatre, library, and hospital. Running all around the Central Park of 15 acres (6 hectares) is the "Crystal Palace" – a wide glass arcade with shops divided by radial boulevards. Beyond this is the residential area containing 5,500 house lots, 25 x 100 feet (7.5 x 30 m) in size, allowing for a density of about 17 houses to an acre (42 houses/ha). Each house was provided with a small garden. Circular avenues give further definition to the plan. One of these, Grand Avenue, contains sites for schools and churches in a park-like setting. The outer ring of the town is a permanent agricultural greenbelt of 5,000 acres devoted to small farms.

The main idea of the Garden City was the marriage of town and country. Howard employed the metaphor of the Three Magazines to delineate the advantages and disadvantages of Town and Country (Fig. 2.2). He perceived urban living as providing economic and social advantages negated by social alienation and inadequate and expensive housing. The country offered fresh air and natural beauty but lacked social and economic opportunities. Under the third magnet Town–Country he noted the advantages of both since the negatives, according to Howard, are balanced out.

Not surprisingly, Howard's interest in providing attractive settings for people was preceded by discussions on the nature of city life and the public-health movement. Carlyle coined the word environmentalism in the 1830s to denote the view that human behaviour is significantly influenced by the setting, including the housing and the neighbourhood. The model dwelling societies arose in the 1850s providing London's lower classes with barrack-style housing in the central districts of the city, which were created by clearing. The British model dwelling societies were imitated in Europe and in the United States. The rising reform mood encouraged Howard to prove that his ideas called utopian were practical.

Gifted architects like Barry Parker and Raymond Unwin were selected to design the first Garden City, Letchworth, in 1904 (Fig 2.3). They struggled against the bylaws which required the layout of new streets according to rigid specifications on straight lines. Here they marshalled arguments based on practical and aesthetic considerations. The efforts to innovate the building site and the streets layout brought the architects to an interest in town planning. In Letchworth, Parker and Unwin utilized a highly irregular street pattern that created oddly shaped blocks, including a few cul-de-sacs. Curvilinear streets with picturesque houses, trees and shrubs became a success. The professionalism demonstrated in the Unwin-Parker's plan of Letchworth became closely identified with Howard's movement. Their work soon epitomized Garden-City-type planning (Fig 2.3).

Although Unwin was strongly sympathetic to Howard's Garden City concept as an ideal, he transformed it into a workable set of planning principles and altered Howard's scheme. Of importance was the fact that Unwin's planning and design principles could be as easily applied to housing estates and suburban subdivisions as to garden cities. Letchworth's street scenes replaced Howard's concept; with the label of Howard's movement it conveyed an ambiguous message.
2.1.3 Urban or anti-urban?

Originally, Howard’s idea was that garden cities would be rationally distributed throughout large territories halting the growth of existing overpopulated big cities and repopulating the countryside, where villages were declining. He was not concerned with the rehabilitation of great cities.

Many architects opposed his ideas. Jane Jacobs, Roger Trancik and others called Howard and his followers “decentrist”, accused them of antiurban utopianism and of decline of the centres of great cities. They did not make any distinction between the layers of the Garden City concept; they criticised the Garden City movement as a whole. Howard’s influence on regional planning seem to them to be as harmful as Unwin’s design principles. Although it is Raymond Unwin, who in his book Town Planning in Practice (1909) quotes with appreciation Camillo Sitte’s thoughts about the form of squares and other urban arrangements in the centres of cities.

American architects, Henry Wright and Clarence Stein, accused of anti-urban utopianism, are the designers of successful housing developments like Sunnyside Gardens in Radburn, N.J. and Chatham Village in Pittsburgh. They applied “Garden City principles”, as they had been developed in England and other European countries, and added to these the consideration of the automobile and a more conscious use of design as a sociological tool for enhancing social contacts. In his book Rehousing Urban America (1935) Henry Wright provide the elements of community planning and “housing technique related to a hypothesis of future large-scale organisation rather then the loosely organised sprawling suburban expansion...”.

Another architect, who criticised the waste of land in Garden-City-type planning was Le Corbusier. He attacked Unwin’s principles and proposed the Vertical Garden City. He labelled single-family housing as "le désastre contemporain" (the contemporary disaster) and opted for multi-family high-rise apartments in park-like setting.

Figure 2.2 Howard’s Three Magnets.

Figure 2.3 A glance at the plan of Letchworth Garden City designed in 1904 might initially suggest an exercise in formal geometry, but it was in fact carefully related to existing site characteristics. Unwin described the development of the plan in C.B. Prudom’s The Garden City (1913).
2.2. RESIDENTIAL ARRANGEMENTS BASED ON GARDEN-CITY URBAN PRINCIPLES

2.2.1 Giszowiec, Poland 1905

The first garden-city built in Central Europe was Giszowiec, in southern Poland (east of Katowice). The design was made in 1905 by two architects from Berlin, Emil and Georg Zillman, under the directions of the managing board of a coal mine, who wanted to ensure proper living conditions for their workers.

The residential area was built as a rectangle (750x1,000 m) in a forest. The construction work was begun in 1906, and within 4 years a housing complex for 3,500 people was raised. Flats for miners (floor area 52-72 m²) and directors (104 m²) were created mainly in one floor semi-detached houses (85%) and row houses for three to six families. The houses had their own gardens (area 1,000-2,800 m²). Vernacular architectural form of houses, in 40 variants was created. This residential area was provided with public services. In the centre the Forestry building was situated, not far away in the local park a theatre hall and a bandstand. It was also furnished with a post office, a fire brigade, laundry, and three stores: colonial, a butcher shop and a bakery. The children attended one of three catholic or a evangelist schools. The building complex was outfitted with a central heating and sewage removal systems.

Giszowiec survived the war in relatively good shape. It remained in its original form until the 1960s, when the government started to replace the small row houses with high slab buildings. In 1987 due to protests from the inhabitants, a law protecting Giszowiec Garden City as a national heritage site was issued. Regrettably only 30% of the neighbourhood remains in its original shape.
2.2.2 Fishermen’s square, Sopot, Poland 1915

Fishermen’s Square in Sopot is an attractive urban arrangement based on garden-city type planning ideas. The project was conceived in the years 1914–31 as a result of removal of a fishermen estate from the centre of a spa, when the city expanded. The fishermen were given a new place to set up and started a colony next to it. (Figure 2.6a, b)

A group of one and two storey, semi-detached and row houses were situated round a rectangular square (29 x 58 m). The buildings were all constructed in similar architectural style and had their gardens. Some of them were destroyed during the war, they were rebuilt, however, maintaining the original style and foundations.

2.2.3 Kamienna Góra, Gdynia, Poland 1920

In 1920 a project to construct a spa-district in an attractively placed district of Gdynia – the Kamienna Góra – was conceived. The plans of it were created by professor Tolwiniski and architect Zielinski, based on the ideas of a garden-city. From the 100 hectare of land only 60% was designated for housing, the remainder was to become the reserve for a park.

The street composition was historically based on the classical French urban planning school with geometric and radial arrangements, while taking into consideration Kamienna Góra’s topography. The main pedestrian path, was situated along roads existing previously, the other routes were designed quite loosely along the layers, but their shape was given a geometrical form. Circular and semicircular squares with radiating streets, pedestrian routes stretched over regular arches were planned in organic manner. Along the streets lots (area 400-1,600 m²) were set up for loose, single or two story housing which would merge with the newly set up gardens. The greenery and scenic elements played the major role in the composition of the project. The main pedestrian route was designated to expose the natural landscape, it was concluded by the most impressive element – a main square with the view of the Gdansk Bay.

The urban arrangement of Kamienna Góra remained virtually unchanged to this day. Apart from residential buildings it now provides for two schools, the Polish Navy Court house and various restaurants. The main advantage of the districts is still the broad presence of trees, linden alley shading streets, well maintained greenery of gardens and a well composed public space – parks and squares.
2.2.4 Chatham Village, Pennsylvania, USA 1931

The design of the successful residential development Chatham Village was based on garden-city urban principles, introduced by R. Unwin and B. Parker in the satellites of London – Letchworth (1904) and Welwyn (1919). These guidelines, adapted for the American conditions and tested by C. Stein and H. Wright in the housing estates of Sunny-side Gardens, Long Island City, near New York (1927) and Radburn, New Jersey (1928) were modified and used in their most mature (according to the authors) form in Chatham Village.

The housing development was designed by Clarence Stein and Henry Wright in 1931. It is a part (realized as the first phase) of residential area, covering the terrain of 18 hectares situated on a western slope, with the view on a broad park. The neighborhood is located 3 km from the Golden Triangle – the center of Pittsburgh. Only 30% of the area is used for residential purposes. The rest is a miniature green belt, surrounding the development from three sides: 1.6 hectare is occupied by sports facilities, 10.4 hectare by forest with picnic facilities and a pedestrian route system.

The estate is comprised of 129 two-storey row houses, gathered into groups of four to eight single family houses of differing plans. The American innovation was the placement of living rooms from the garden’s side (introduced previously at Radburn). The groups of houses were arranged around variously shaped neighbor-spaces (semi-public parks or pedestrian paths). The topographical conditions were thoroughly put to use. Depending on the gradient of the terrain some houses have built-in garages, the inhabitants of others use grouped garages, ideally merged into the shape of terrain. The garage complexes are connected with pedestrian paths leading to the houses and camouflaged to conceal their purpose (brick walls, roofs covered with greenery, enriched with small towers, stone details, entrance gates with arches.

The residential area is bounded with tree-filled streets and divided in half with the Sulgrave Road. The tightly built walls of houses defining its space have a series of slim openings, which allow looking through and entrance to the park spaces within the blocks. The in-block spaces make use of the shape of terrain and are placed on various levels, creating attractive interlocked forms, and merge by wider scenic openings with other smaller interiors. The biggest park through its connections with other spaces has the effect of organizing the whole development. The interior’s edges are accented by unique architectural forms, such as romantic, garden arbor with the view towards the city center. These attractive additions hide in their underground parts the technical facilities, such as power station, etc. The composition of interior is completed by raised above the level of the park private gardens. The walls which define urban spaces are decorated with roofed porches, and entrance stairways. Symmetrically placed window openings in the facades introduce a feeling of peace and harmony, underlining the variations in urban arrangement.

The residential area, Chatham Village, remains unchanged. The buildings are well preserved, all houses are occupied and the urban arrangement is attractive for both, inhabitants and visitors.
2.3 THE GARDEN CITY URBAN PLANNING PRINCIPLES

2.3.1 Public, Semi-public and Private Space Relations

In any environment space may be occupied by a number of users, some of their territories may overlap, while others are strictly delimited. This requires a form of boundary notation, which makes it possible to identify each territory. In urbanized spaces there are spaces (legally owned or delimited by an understood set of symbols), which are identified as belonging to the family, group or society unit. The boundary elements may include: walls, tall fencing, boundary symbols like lower fences, changes in ground surface, etc. The perception of space by people as well as for animals is dynamic and more concerned with the potential actions which may take place there, then the shape of the space itself. The qualification of space by means of senses bears upon the way in which the person will act and interact with others within it. One of the factors of distinguishing space is its belonging to a unit (family), group or society.

Private space is the territory belonging to a person or family. In the legal sense a lot with house, usually constitutes a legally owned property. In order to create a feeling of intimacy and isolation the private space is separated from its surroundings by such elements as: walls (courtyard house), fencing, hedges (garden).

Semi-private space, even though it is privately owned, is open with the consent of by the will of the owner. It is thus available for others in a limited way (non-fenced front lawn, entrances, porches). Unfenced or symbolically delimited front gardens surrounding a court or cul-de-sac visually enlarge the semi-public space of the street, square. In such case the legal rights of ownership are secondary for the identification of the type of space.

Semi-public space in single family housing groups of houses may delimit blocks of development, which are identified by its inhabitants through a set of signs and symbols. Also, in single family housing, the semi-public and semi-private spaces located ‘inside’ of a larger territory create a new kind of space, community space, enhancing the safety of the inhabitants, by creating a feeling of sharing a common responsibility for it.

When space is shared by a growing number of people, its broad availability finally leads to the formation of an open public space. In the case of single-family housing developments we can always define it as the space of transit roads, common squares and parks (available to all inhabitants, their guests and random passers-by). The presence of a certain amount of public and semi-public space creates a feeling of belonging to a larger social group and the basis for functions as meetings and other activities of living in an aggregation. The relations between these spaces, based on their locations seem to be most important. (Fig. 2.10)

Proper placement and connection of spaces is important to the functioning of the housing development. They create the feeling of safety, convenience, identity and genius loci.

Figure 2.9 Chatham Village, Pennsylvania, USA, designed by Stein and Wright.

Figure 2.10 Connections between spaces.
2.3.2 Circulation to Use-Space

Communication and use-spaces are the most important dynamic and static elements of the residential area. The definition of condition of movement and stability is the essence of both the architectural object and urban arrangement. The circulation between use-spaces is as important as the spaces themselves. The arrangement and shape of the spaces designated for movement is as influential on social life as the form of common spaces.

Use-spaces are the primary issue, dealt with in the design process. A factor determining how a given area is perceived by its inhabitants is its communication layout: vehicular and pedestrian. It determines the location of entrances, the hierarchy of importance of places; it is a cognitive tool for composition, repetitive and unique element arrangement, geometry, symmetry, rhythm. The interdependencies of use-spaces and communication bear upon the area’s pattern of spatial arrangement, which can be linear, central, elongated, condensed. Configuration of circulation and use-spaces is an important tool directly influencing all other relations in both architectural objects and urban arrangement.

2.3.3 Geometry

The fundamental use of this idea incorporates basic figures of geometry as form of space determining the overall configuration of urban arrangement and the preferences of users – observers based on Gestalt Theory. Geometry in one form or another exists in all arrangements.

The mind of the urban space designer does not necessarily have to be concerned with geometrical dependencies and consciously aware of all such relations in the project. The architect is often directed by his own preferences of the subject-matter and presents an individual approach. None-the-less interesting is the examination of geometrical elements and relations in successful arrangements.

2.3.4 Repetitive and Unique Elements

The interdependencies between repetitive and unique elements create the necessity of examining spatial and formal characteristics of all the composition components, to recognize them as singular or repetitive. Upon recognition of a unique element, we instantly compare it with other repetitive features which create the difference. A unique element is defined through the possession or lack of attributes distinguishing them from repetitive elements. Size, orientation, location, shape, configuration, color, material, texture and function are all features which facilitate the distinction of the unique from the common.

Repetition and uniqueness of elements can take place on various scales, levels in the urban arrangements. It may be visible only in the plan, section or facades. Analysis of these elements uncovers valuable information on geometry, hierarchy, composition, communication and the division between public and private space.
2.4 THE RESIDENTIAL AREA OF SUCHY DWÓR

2.4.1 Location and site characteristics
The model project, the 5 hectare Suchy Dwór residential area, designed in 1995 by D. Włodarczyk and M. Karzynski, is a part of a bigger housing enterprise for 2,000 inhabitants (32 hectares). The site gently slopes bordered by a forest from the west. Suchy Dwór is located in Kosakowo municipality at the edge of the three-city, Gdansk-Sopot-Gdynia agglomeration. Kosakowo is a municipality of 5,000 inhabitants with exceptional environmental values. The northern part of it belongs to the Seafront Landscape Park. This terrain is one of the Baltic protected areas. Kosakowo is foreseen as the recreational area for Gdynia. Over 90% of the municipal grounds belong to private owners. The dominating form of housing is one-family housing. The technical infrastructure is poor and it needs to be developed or modernised urgently. The population density is 100 person/m². The distance to Gdynia city centre is about 10 km. Gdynia, a city of 250,000 inhabitants, is the Polish main cargo harbour and the biggest container terminal in the Southern Baltic Region with a developed shipbuilding industry. The city is the major centre of maritime education and has favourable conditions for investments, as well as for life and work.

2.4.2 History of Suchy Dwór
Suchy Dwór is the youngest of nine villages in Kosakowo Municipality. The earliest traces of human existence found here dates back to 2000-1700 BC. The Kosakowo area was inhabited by people representing the East Pomeranian culture. In 8th century three early settlements were established in Kęp Oksywska, one of them in Debogórze, neighbouring Suchy Dwór. The area of Kęp Oksywska was property of duchess Zwinislaw, wife of the Pomeranian prince Mściwoj Spokojny. The duchess was strongly connected with Norbertine nuns from Zukowo and her daughters became nuns there. The first written note about Kosakowo municipality is dated 1224, when the Kashubian-Pomeranian prince Świetopelk II divided Kęp Oksywska into two parts: the southern part (including Oksywie and the area of Suchy Dwór) was given to Norbertine nuns, the northern part was given to a Cistercian monastery in Oliwa.

The first written information about Suchy Dwór, appeared in 1776. It was named Pustkowie Suchy Dworowó. In 1796 it is mentioned as Suchidwor, then the name was changed to Sachidwor (1862) and Suchydwór (1912) to finally become Suchy Dwór. The name Suchy Dwór (according to Sycht) comes from Kashubian word “sech” (dry) – topographical part, and “dwór” (court) – cultural part.

Before the second world war, there were 82 inhabitants in Suchy Dwór. In 1939, Suchy Dwór was a place of severe battles in the defense of Kęp Oksywska and later partisans from Debogórze, Gryf Pomorski squad, were active there.

Between 1945 and 1948, the area of Suchy Dwór belonged to the Gdynia Housing Society, but already in 1949, the ownership was changed and a PGR, State Agricultural Company, started farming and growing vegetables there. The land was infertile and dry, the activity was not profitable, and after many years of stubborn, subsidized production it went bankrupt.

Now, Suchy Dwór is again the place, where the housing development is taking place, surrounded by beautiful forest and with wide view towards the Pucka and Gdańska Bays.

2.4.3 The built environment
The project consists of 67 affordable one-family houses: detached, semidetached or organised into triplexes. There are several types of houses, different in size: some of them designed for traditional families (5 bedrooms), other small-
Compositional principles in Suchy Dwór

Figure 2.15 Plan of residential area in Suchy Dwór.

Figure 2.16 Suchy Dwór Circulation to use-space. Circulation network is an important kinetic component of urban environment. It consists of pedestrian and vehicular routes. Pedestrian paths should be continuous leading to interesting natural places, or socially vibrant meeting spots. Streets accommodating vehicles are to be shaped to serve inhabitants, but not to allow for short cuts from one to the other part of the city.

Figure 2.17 Suchy Dwór Geometry. The urban plans are usually governed by geometrical rules, although they might not be perceived immediately. The rhythmic intervals between houses lining streets give the sense of ordering. According to gestalt psychologists the straight angles are the most anticipated by dwellers, and if different angles are employed they should be repeated several times to allow recipients to get accustomed and accept variation.
2. GARDEN CITY URBAN PATTERNS - REDISCOVERED AND APPLIED IN SUCHY DWÓR

Figure 2.18 Suchy Dwór Figure Ground. The balance between open spaces (voids) and building mass (solids) is extremely important for the composition of the residential area and definition of urban interiors. A graphical representation of the Figure Ground phenomenon can thus be a tool illustrating structure, order of urban spaces and dependencies between solids and voids.

Figure 2.19 Suchy Dwór Public Space to Private Space Relations. The proportion and location of different category of space is important for a good functioning of residential area as well as inhabitants well being. Garden City proponents advocate that 30% of housing development should be devoted to commonly used space: semi-public or public.

Figure 2.20 Suchy Dwór Repetitive to Unique. Residential areas consist usually of homogenous, repetitive elements: houses are of similar volume, shape, roof's angle, materials etc. Thus to enrich the urban arrangement unique features carefully woven into the composition are to be used. These might be small details, like different colour of doors terminating vista, or on contrary smashing accent - building of different size, style or function.
ler (1-2 bedrooms) for single-parent families or single persons. All the houses were designed to be realised in phases, the first floor already fulfills all the needs of a family, and the space in the attic is supposed to be the expandable area possible to be completed when the family grows. The affordability measure was to propose a house, the cost of which was calculated to be the equivalent of the price of a flat in a slab building.

The main effort, in creating Suchy Dwór residential area however, was put into providing well-designed outdoor space as a potential place for interaction and activities of the inhabitants. Carefully planned streets, square-courts, small green areas enrich everyday life of the residents. The careful revision of garden city urban planning principles was of significant importance for the neo-traditional urban form of the community.

The public space of the streets is well-defined by rhythmical distributed facades of one family houses. Road alignment consists of P-loop street and several cul-de-sacs as the most appropriate, pedestrian friendly solutions. The smaller, one-bedroom houses attached to bigger one family houses to form triplexes are defining semiprivate courts terminating the axes of the streets.

2.5 URBAN PLANNING ELEMENTS REALIZED IN SUCHY DWÓR

2.5.1 Circulation network
The community environment should allow for convenient and safe movement to all the places. Thus residential streets are the important component of it. Local access streets provide frontage to lots and by design carry no traffic other than that generated by the street itself. They are planned so that motor vehicles using them have to be driven slowly, thus making conditions safe for variety of neighbourhood activities. They are either cul-de-sacs or loops.

2.5.2 Cul-de-sacs
Cul-de-sacs are attractive and cost-effective street design alternatives for residential developments. The closure of such streets clearly distinguishes an individual group of houses and creates the potential for aesthetically pleasing urban interiors.

There is a variety of approaches to cul-de-sac design. Among the more common are Y-shape, T-shape, squares and circles. Some of them allow for the preservation of existing trees within cul-de-sac islands. As the number of houses to be served by cul-de-sac is limited it is possible to use the street of economical width and light construction. There are different requirements however, the dimensions of maneuvering space, and the length of cul-de-sac in local codes, concern for public delivery services, emergency exit, trash and snow removal etc.

In 1906 architects Unwin and Parker managed to have passed the Hampstead Garden Suburb Act, which restored the legality of the outlawed cul-de-sac. In Hampstead, as the response to increasing vehicular traffic, they promoted a graded network of minor and major, paved and unpaved, wide and narrow streets that led to invention both of the cul-de-sac and the secondary and the service road. In creating public inner spaces for Hampstead garden Suburb the architects utilized cul-de-sac device combined with the quadrangle square inscribed carefully in the superblock.

2.5.3 Loop streets
A loop street is a variation of cul-de-sac and it is used exactly in the same way. It is continuous and eliminates the necessity of providing maneuvering space. The length of it is not as essential as in case of cul-de-sac. The traffic is
limited to the cars of its inhabitants. The loop street should discourage speeding and be located in a road system in such a way that it would not be a shortcut for any other road. Christopher Alexander suggests that the street is safe if the number of vehicles using it is not exceeding 50. So fulfilling this recommendation the length of it will differ according to the number of cars per household. The plan of loop street often resembles P, O or U-shape. The turns of the street are the focal points and can be designed analogically to the cul-de-sac. They can be shaped as circles, squares or triangles.

2.5.4 Squares and courts

The concept of urban spaces created by voids among buildings are analogous to architectural interiors. The outside is articulated into spaces just like is the inside, but for its own reasons. The articulated environment results of breaking-up of flow into action and rest, into corridor street and square.

While the street is perceived in passing, the square has introvert character and results from grouping buildings around an open space. R. Krier (1979) suggests that the square was the first way of using urban space that man discovered. N. Schonauer (1992) describing collective semi-permanent dwellings in Arizona and New Mexico confirms the assumption stating "Pueblos are multistoried buildings of many dwelling units arranged in tiers. Usually several of these building masses enclose one or more plazas". Thus the squares are the important components of urban fabric, but the concept of a purely residential square was developed at the beginning of 17th century – Henry IV of France built the Place Royale (now Place des Vosges) in Paris. He wanted to join the homes of aristocracy with that of the king. The square was surrounded by thirty eight attached three-storied buildings. The rowhouses around the squares became fashionable. The preferences of clients caused the creation of many others: Leicester Square (1635), Soho Square (1681) and Berkeley Square (1695) in London, Place Vendome (1701) in Paris and a group of residential squares (1727-1789) in Bath.

2.5.5 Compositional principles in Suchy Dwór

The urban planning principles important in designing socially vibrant urban spaces, derived from garden city planning are: continuity, accessibility and legibility of circulation network – vehicle and pedestrian, (Fig. 2.16) well defined human scale urban spaces, spatial definition of intimate and public territories, and visually enclosed places (squares and courts) fostering the sense of safety and belonging.

The form of the proposed urban space was carefully examined. The analysis of geometrical relations (Fig. 2.17), figure-ground plan (Fig. 2.18), public and private spaces (Fig. 2.19), proportions of unique to repetitive forms (Fig. 2.20) were based on gestalt theory and psychology. The researchers concerned with our outdoor behavior and physical states suggest, that the behavior responds to the shape of our surrounding and that it can be influenced by the physical environment.

References