

Waldemar CUDNY

University of Lodz, Branch in Tomaszow Mazowiecki
Institute of The Tourism, Tomaszow Mazowiecki, Poland
e-mail: algernon1@neostrada.pl

THE STUDY OF THE LANDSCAPE PHYSIOGNOMY OF URBAN AREAS – THE METHODOLOGY DEVELOPMENT

key words: physiognomy of city, Poland, Lodz, Tomaszów Mazowiecki

INTRODUCTION

Physiognomy is an important issue in the study of urban landscape. It greatly influences the inhabitants' standard of living and their attitude to their own town or city. The appearance and the resulting atmosphere of a place also make a good or bad impression on investors. The problems of urban physiognomy are widely discussed in geographical studies. The aim of this article is to review the development of Polish geographical studies of the physiognomy of urban areas. The author describes the research conducted before World War II and after the War, in which physiognomy was studied along with land use and urban morphology.

In the 1990s physiognomy again started to be treated as a separate, individual study area. This approach resulted from the changes in the appearance of Polish cities which took place during the transformation period. The article also presents the methods used to describe the changes in the appearance and the building state of repair, using the examples of Lodz and Tomaszów Mazowiecki city centres. Physiognomy is understood as the outside structure of the city, i.e. its general appearance, building forms, as well as the types of the building materials (Koter, 1974). Apart from the features of buildings, the author also considered elements connected with the building state of repair and the state of road surfaces and urban greenery (Leszczycki, 1932 b)

THE DEVELOPMENT OF RESEARCH INTO URBAN AREAS IN POLAND

The first publications regarding the physiognomy of cities include those by W. Kubijowicz (1927), Z. Simche (1928), O. Kossman (1931), S. Leszczycki (1932 a,b,

1936) and W. Ormicki (1932). The authors discussed in details elements such as the architecture of buildings, the number of floors, the building material, the shape of roofs and the material they were covered with. They also considered the material used for the construction of roads, their state of repair, as well as unoccupied surfaces, such as waters, green areas and farming areas. The outcome of that research was a number of physiognomic maps of Polish cities; e.g. a map of this type was made in the inter-war period for Lodz.

After World War II, geographers started to study land use and urban morphology. As regards the study of land use, a lot was done at the Kraków geographical centre. W. Kubijowicz and Z. Simche conducted research even before the war, and after 1945 it was continued by K. Bromek and his team. K. Bromek (1955) described the method of preparing detailed maps of land use. Elements of physiognomy, such as the building material of walls, the state of repair or the number of floors in buildings, were considered while studying selected built-up areas. Research of this type was continued later at the Kraków centre, in the analysis of land use in individual cadastral districts of the city.

One of the first post-war publications regarding elements of physiognomy is that by A. Werwicki (1958). The author presents the analysis of land use in the town of Trzcіńsko Zdrój and gives a short description of its physiognomy. The next work by A. Werwicki (1973) regards the formation of the spatial structure of medium-sized towns which were *województwo* capitals. It includes the delimitation of the physiognomic districts of the towns, according to the layout and type of buildings. Another work by A. Werwicki (1976) concerns the spatial layout and physiognomy of towns around Wałbrzych. Elements of physiognomy are also discussed in the joint publication by A. Jelonek and A. Werwicki (1971) regarding Tarnów.

Publications by S. Liszewski (1970; 1971 a,b; 1976; 1977 a,b; 1978; 1979) also belong to the series of studies dealing with land use. In the first one the author presented his own concept of land use classification in the city, and in the next ones he developed the original idea and used it for empirical studies conducted in Lodz, among other places. In the classification mentioned above, apart from the functions of a site, one of the study criteria is its physiognomy – the number of floors, the type of building, architecture and the horizontal intensity of building. Another element in the classification was the type and condition of urban greenery. W. Cudny in his works (1999, 2006 a,b,c) presented the results of the physiognomy analysis conducted in Lodz and Tomaszów Mazowiecki. The study was based on methods originating from the geography of perception and on the analysis of issued building permits.

Another line of study where elements of physiognomy were analyzed was the study of urban morphology. The precursor in this field was K. Dziewoński. In one of his publications (1962) he claimed that the research conducted before World War II, in which physiognomy was regarded as the basis for the analysis of cities, had been insufficient. He remarked that such research should be conducted in a wider context of the morphology and functions of the city. Following this idea, S. Golachowski, B. Kostrubiec and A. Zagożdżon wrote a publication regarding urban morphology (1974). Similarly to K. Dziewoński (1962), they treated elements of physiognomy as part of the study of the city layout. Research into urban morphology was also conducted by M. Koter. In his first work (1969) he described the origins and development of the spatial layout of Lodz. In his further publications, M. Koter (1974, 1979) continued the discussion of urban morphology. In the first one he attempted to clarify the definitions of terms such as physiognomy, morphology and morphogenesis, while in the other one he discussed the problems of the morphological structure of Lodz. M. Koter's work from 1994 is another attempt to describe the notions of physiognomy, morphogenesis and comparative morphology. The morphological analysis of cities was also presented by M. Kulesza (1994 a,b, 1995 a,b; 1996) and B. Miszewska (1971, 1976, 1979, 1993, 1995).

THE DESCRIPTIVE METHOD, PERCEPTION METHODS AND THE ANALYSIS OF BUILDING PERMITS IN THE DESCRIPTION OF URBAN PHYSIOGNOMY, ON THE EXAMPLE OF ŁÓDŹ AND TOMASZÓW MAZOWIECKI

The first method used by the author for the analysis of the physiognomy of Lodz city centre was the descriptive method, based on field observation combined with point evaluation. During the observation, architectural items were inventoried as regarded their architectural style, building material, roof cover and number of floors. Apart from that, the inventory included unoccupied areas, i.e. green areas, roads, etc. In this case the analysis included the type of surface, greenery, its condition and amount. The result obtained by the author was a detailed description of the urban landscape and its diversity, supplemented with a graphic description in the form of graphs and maps. The inventory making was supplemented with the point evaluation method, based on a modified classification proposed by P.Knox (1976). The method consists in ascribing a certain number of points to a given parcel of land, depending on the state of repair of buildings, surfaces and greenery. In this case the better the state of repair of a given element was, the higher number of points was ascribed. The number of points depended also on the influence of a given element on the urban landscape, as the author decided that landscape is most significantly affected by the building state of repair and greenery, while the appearance and state

of the surface is of smaller importance. Therefore, the maximum number of points is higher in the case of buildings and greenery than in the case of the road state of repair (tab. 1).

Tab. 1. Residential environment quality.

Studied element	No of points
State of repair	
Very good: renovated completely or in major part: renovated façade, doors and windows	9-11
Good: renovated facade only	6-8
Medium: façade, doors and windows not renovated, but the building is well preserved	3-5
Bad: situation as above, but the building is in a bad state of repair: the plaster and paint peeling off, balconies damaged	1-2
Amount and quality of urban greenery	
Thick, abundant greenery: trees, shrubs, grass	9-11
Greenery with predominating shrubs and lawns: few or no trees	6-8
Scarce greenery: only or nearly only lawns, or single trees, flower beds	1-5
Lack of urban greenery	0
Condition of roads, pavements and yards	
Surface in very good condition: no defects, irregularities, etc.	5-7
Surface in medium condition: small defects and irregularities	2-4
Surface in bad condition: old, damaged, with many defects and irregularities, causing problems to walking people and moving vehicles	1

Source: author's compilation based on Knox (1976).

A certain drawback of this method is its subjectivity, as the results depend here on the researcher himself and his perception of the urban space. However, having decided to use point classification, the author tried to use categories which could provide possibly the highest comparability of the results (tab. 1). By combining observation and point evaluation, he obtained an interesting tool for describing urban landscape.

The results of field inventory and point evaluation then undergo a cameral analysis, in which data is presented in the form of tables (tab. 2). In order to present the results in a more synthetic form, the material can also undergo a statistical analysis, in which one can use the measures of central tendency, such as mean values or medians. As far as the graphic presentation of results is concerned, one can use special symmetrical graphs, e.g. for the streets under study, as well as cartograms and cartodiagrams.

Tab. 2. Score regarding the building state of repair in the front zone of Piotrkowska Street in Lodz (1999).

Score	West side		East side	
	Buildings		Buildings	
	No of points	%	No of points	%
11	10	5,9	17	10,7
10	10	5,9	2	1,3
9	0	0,0	3	1,9
8	1	0,6	1	0,6
7	2	1,2	1	0,6
6	5	3,0	8	5,0
5	59	34,9	41	25,8
4	25	14,8	18	11,3
3	32	18,9	28	17,6
2	19	11,2	29	18,3
1	6	3,6	11	6,9
Total:	169	100,0	159	100,0

Source: author's compilation based on field study.

The descriptive method presented above, combined with point evaluation, can be supplemented with the analysis of the perception of the city physiognomy. According to the PWN Encyclopedia, perception is a complex system of psychological and mental processes at sensory-motoric and semantic-functional level; a selective

understanding of impulses and information, depending on the individual's experience, his/her current attitudes, emotional state and objective qualities; a process of the direct reflection of phenomena in their varied qualities, which occurs by means of different analyzers and on the basis of one's experience.

The study of the urban landscape perception is particularly promising. It shows which areas of the city are perceived positively and which negatively and why. Such studies can be conducted among the city inhabitants, tourists and investors. Surveys can be conducted among respondents chosen randomly. They can also be carried out among city office workers dealing with architecture and urban planning, i.e. specialists on the subject. Using such research tools makes it possible to observe the dynamic current changes occurring in the urban landscape. It is particularly valuable in the transformation period, during which many very fast changes in cities, difficult to study in any other way, took place in Poland. In this kind of studies one can ask questions regarding dynamic changes in the urban landscape and afterwards describe the changes in physiognomy in a selected period of time. The survey interview method is undoubtedly more effective here than a questionnaire survey, as it gives one an opportunity to make the questions more detailed and have a discussion with the respondents.

The survey results are then processed in computer programs, such as MS ACCESS data base and MS EXCEL spreadsheet. After that, using graphic programs, it is possible to prepare result maps, in which the answers obtained from the respondents are presented in the form of cartodiagrams. This type of studies were conducted e.g. in Tomaszow Mazowiecki, with about 700 survey interviews with the city inhabitants. Some questions in the questionnaire regarded the changes in the physiognomy of the city in the 1990s. The survey showed which areas of Tomaszow Mazowiecki are perceived positively and which are seen as substandard. Moreover, a dynamic analysis showed which areas have undergone positive or negative changes over the time under study (fig.1).

Another measure used in the study of the changing physiognomy of Tomaszow Mazowiecki, unrelated to perception, was the number of building permits. Permits issued in the period of 1989 – 2002 were analyzed, showing in which areas of the city most buildings were erected and what type of buildings they were. Each building permit states the type of investment, its localization and the issue date. It also includes the architectural plan of the building.

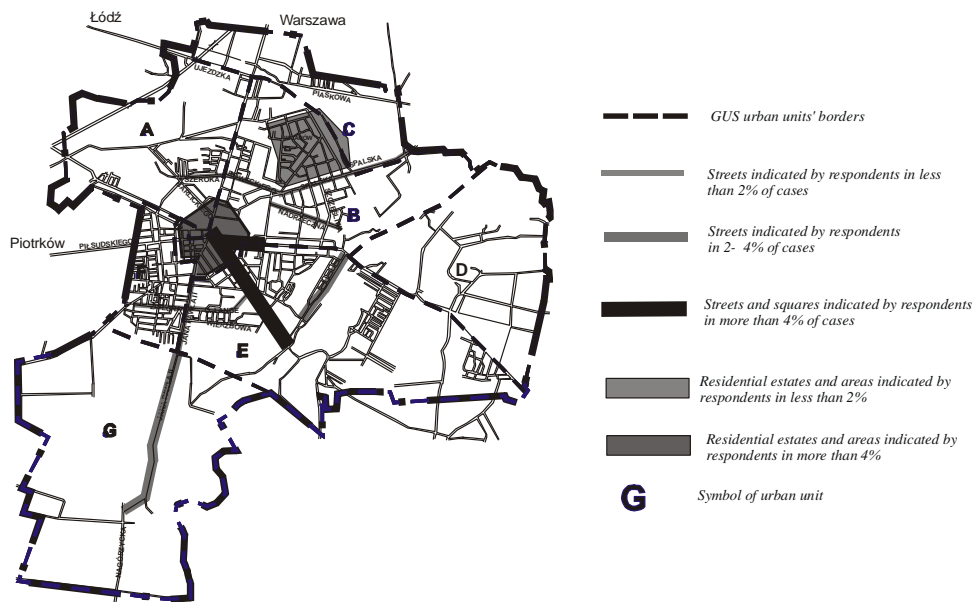


Fig. 1. Responses of Tomaszów Mazowiecki inhabitants, regarding the areas whose appearance and state of repair deteriorated in 1989-2001. *Source: author's compilation based on field study.*

Naturally, the data which concerns the building permits does not fully reflect the number of newly constructed buildings. Not all permits are used, and some buildings are erected illegally, without a proper permit. Therefore it is sensible to consider not only the list of issued permits, but also the final inspection documents. The analysis of building permits may also be supplemented with field inventory, which will verify which permits are being actually used. The results of this analysis can be then processed in computer programs and presented in the form of cartograms for selected areas of the city (fig.2).

CONCLUSIONS

The study of the physiognomy of the city has a long tradition; the first analyses of this type were done before World War II. Then physiognomy was one of the basic elements taken into consideration in an analysis of a destination.

In the post-war period the study of physiognomy was conducted at different geographical centres, such as the universities in Kraków, Warsaw, Wrocław or Lodz.



Fig.2. Percentage of building permits issued in Tomaszów Mazowiecki in 1989 – 2002, in GUS urban units.
Source: author's calculations based on the data obtained from the City Council and Powiat Starostwo in Tomaszów Mazowiecki

Initially the analyses were similar to those from before the war, and later they became a part of the study of land use in cities. They took the form of theoretical works and empirical studies, which regarded the physiognomy of a city and the spatial analysis of the distribution of urban functions. In the 1960s K. Dziewoński introduced a new study trend. He claimed that the analysis of physiognomy should be treated as an element of a wider study of morphology, i.e. the city layout.

In the 1990s in Poland we can observe a return to an approach in which physiognomy was considered to be the basis for urban space analysis. This resulted from the changes which were taking place in the landscape of Polish cities at that time. Those intensive changes were not reflected in the study of land use or morphology. That is why other methods of physiognomy analysis started to be used, based on observation, point evaluation, analysis of perception by means of survey interviews and questionnaires, as well as the analysis of the number and structure of issued building permits. These types of methods were also used in the study of the physiognomy of Lodz and Tomaszów Mazowiecki. The first method was field observation combined with point evaluation. Architectural items in the city centre were inventoried as regarded their architectural style, building material, surface and greenery. Moreover, the perception method of point evaluation, based on P. Knox's classification (1976) was also used in this case, in order to evaluate the state of repair of buildings, surfaces and urban greenery. In the studies regarding the physiognomy

of Tomaszów Mazowiecki the perception analysis method was used, based on a questionnaire interview conducted among the inhabitants, and issued building permits were analyzed as well. Certainly the most subjective, and consequently the most controversial method is the description combined with point evaluation. Perception analysis, based on interviews, provides more representative results, confirmed by a properly selected sample. The most measurable method, based on materials obtained from offices is the analysis of issued building permits. In this case, however, not all the changes will be considered, as some building works are not registered. Therefore, the author believes that the fullest picture of city physiognomy and its transformations can be obtained when we simultaneously use a number of different study methods.

The problems of the urban landscape analysis described in this article are certainly very interesting. In Polish geography many different methods and approaches have been used to analyze this issue. However, the return to the traditional approach is the best proof that it still requires further study.

REFERENCES

- Bromek K., 1955: Opracowanie szczegółowej mapy użytkowania ziemi dla Krakowa. *Przegląd Geograficzny*. t. 27, z. 1, s. 589 - 604.
- Cudny W., 1999: Fizjonomia ul. Piotrkowskiej w świetle badań behawioralnych. *Materiały XLVIII Zjazdu Polskiego Towarzystwa Geograficznego*. t.2. Region Łódzki, Łódź, s. 119 - 121.
- Cudny W., 2006a: Przemiany w fizjonomii ul. Piotrkowskiej w Łodzi. *Acta Universitatis Lodziensis. Folia Geographica Socio – Oeconomica*. nr 7, s. 183 - 200.
- Cudny W., 2006b: Przemiany fizjonomii Tomaszowa Mazowieckiego w okresie transformacji. *XVIII Konwersatorium Wiedzy o Mieście, Łódź*, s. 21-30.
- Cudny W., 2006c: Przemiany przestrzenne i funkcjonalne Tomaszowa Mazowieckiego w okresie transformacji. *Szlakami Nauki*, nr 35, ŁTN, Łódź, s. 1 - 157.
- Dziewoński K., 1962, *Zagadnienia typologii morfologicznej miast w Polsce*, *Czasopismo Geograficzne*. t. 33.
- Encyklopedia PWN, 2008: www.pwn.pl (styczeń 2008).
- Golachowski S., Kostrubiec B., Zagożdżon A., 1974: *Metody badań geograficzno – osadniczych*, Warszawa, PWN, s. 207.
- Jelonek A., Werwicki A., 1971: *Struktura przestrzenna Tarnowa*, [w:] *Studia z geografii średnich miast w Polsce problematyka Tarnowa* (red.): K. Dziewoński, *Prace Geograficzne*, nr 82, s. 221-274.

- Knox P., 1976: Fieldwork in urban geography: assessing of environmental quality. *Scottish Geographical Magazine*, no. 92.
- Kossman O., 1931; Zabudowa Miasta Łodzi pod względem krajobrazowym. *Czasopismo Przyrodnicze*. z 5/6, s. 185-201.
- Koter M., 1969: Geneza układu przestrzennego Łodzi przemysłowej, *Prace Geograficzne IG PAN*, nr 79, Warszawa.
- Koter M., 1974: Fizjonomia, morfologia i morfogeneza miasta. Przegląd rozwoju oraz próba uściślenia pojęć. *Zeszyty Naukowe Uniwersytetu Łódzkiego, Nauki Matematyczno Przyrodnicze*, s. II, z. 55, s. 3-16.
- Koter M., 1979: Struktura morfogenetyczna wielkiego miasta. *Zeszyty naukowe Uniwersytetu Łódzkiego, Nauki Matematyczno Przyrodnicze* s. II, z. 21, s. 25-36.
- Koter M., 1994: Od fizjonomii do morfogenezy i morfologii porównawczej. Podstawowe zagadnienia teoretyczne morfologii miast [w:] *Zagadnienia geografii historycznej osadnictwa w Polsce*, (red.): M. Koter, J. Tkocz, UMK, UŁ, Toruń-Łódź, s. 63-88.
- Kubijowicz W., 1927: Z antropogeografii Nowego Sącza. *Prace Instytutu Geografii Uniwersytetu Jagiellońskiego*, nr 8.
- Kulesza M., 1994a: Z zagadnień pierwotnego rozplanowania miast obecnego województwa łódzkiego w okresie przedrozbiorowym. *Kronika Miasta Łodzi*, z. 1, s. 97-106.
- Kulesza M., 1994b: Ślady wczesnomiejskich osad targowych w planach niektórych miast wschodniej Wielkopolski, (dawna ziemia Łęczycka i Sieradzka) [w:] *Zagadnienia geografii historycznej osadnictwa w Polsce* (red.): M. Koter, J. Tkocz, Toruń – Łódź, s. 89-103.
- Kulesza M., 1995a: Rozwój przestrzenny miasta [w:] *Uniejów. Dzieje miasta* (red.): J. Szymczak, PTH, Urząd Miasta Uniejowa, Uniejów – Łódź.
- Kulesza M., 1995b: Uwagi na temat zagospodarowania gruntów miejskich w dawnych miastach Łęczyckiego w XVIII i XIX w [w:] *Urbanizacja wsi w obrzeżach miejsko – wiejskich* (red.): Z. J. Kamiński, Katowice, s. 156-167.
- Kulesza M., 1996: Uwagi na temat pierwotnego rozplanowania miast obecnego województwa sieradzkiego w okresie przedrozbiorowym (zasygnalizowane zagadnienia), *Rocznik Łódzki*, t. XLIII, Łódź, s. 73-88.
- Leszczycki S., 1932 a: Badania geograficzne nad osadnictwem w Beskidzie Wyspowym. *Prace Instytutu Geograficznego Uniwersytetu Jagiellońskiego*, z. 13.
- Leszczycki S., 1932 b: Analiza Fizjonomii miasta, *Wiadomości Geograficzne*, nr 3-5, s. 61-63.
- Leszczycki S., 1936: Typy fizjonomiczne miast Polski. *Samorząd Terytorialny*, t. 8, z 1/2, s. 65-76.

- Liszewski S., 1970: Użytkowanie ziemi w miastach województwa opolskiego, maszynopis pracy doktorskiej.
- Liszewski S., 1971a: Z badań nad wykorzystaniem terenów w mieście Koźlu [w:] Ziemia Kozielska. Studia i materiały, t. 1, Instytut Śląski w Opolu.
- Liszewski S., 1971b: Studia inwentaryzacji urbanistycznej miast. Zakres i metody pracy, Opolskie Roczniki ekonomiczne, t. 3, Opole.
- Liszewski S., 1976: Struktura przestrzenna miasta Prudnika. Acta Universitatis Lodzianis, Zeszyty Naukowe UŁ, Nauki Matematyczno - Przyrodnicze, seria II, z. 7.
- Liszewski S., 1977a: Tereny miejskie a struktura przestrzenna Łodzi, Acta Universitatis Lodzianis.
- Liszewski S., 1977b: Zmiany w użytkowaniu ziemi na terenie Łodzi w latach 1945 - 1974. Przegląd Ekonomiczno - Społeczny m. Łodzi, nr. 4.
- Liszewski S., 1978: Tereny miejskie podział i klasyfikacja, Acta Universitatis Lodzianis. Nauki Matematyczno Przyrodnicze, Seria II, Zeszyt 15.
- Liszewski S., 1979: Zróżnicowanie przestrzenne użytkowania ziemi w Łodzi. Acta Universitatis Lodzianis, Nauki Matematyczno Przyrodnicze, Seria II, Zeszyt 21.
- Miszewska B., 1971: Analiza morfologiczna Opola. Studia Społ.-Ekon., 2, Instytut Śląski, s. 180-217.
- Miszewska B., 1976: Morfologia sieci osadniczej jako układu linii. Acta Univ. Wratisl. 302, Studia Geogr., 22, 71 s.
- Miszewska B., 1979: Elementy struktury morfologicznej Wrocławia. Acta Univ. Wratisl. 438, Prace Inst. Geogr., B3, s. 29-41.
- Miszewska B., 1993: Bloki urbanistyczne Wrocławia w różnych fazach cyklu miejskiego [w:] Zagadnienia geografii historycznej i osadnictwa w Polsce, Toruń - Łódź, s. 111-129.
- Miszewska B., 1995: Wpływ ekspansji przestrzennej Wrocławia na sukcesję użytkowania ziemi i strukturę morfologiczną miasta. Czas. Geogr., 66, s. 363-370.
- Ormicki W., 1932: Miasto jako przedmiot badań geografii. Wiadomości Geograficzne, nr 10.
- Simche Z., 1928: O typach planów krajobrazowych miast: Przegląd Geograficzny, t. 8, z. 1/2, s. 67-76.
- Werwicki A., 1958: Użytkowanie ziemi w mieście, Dokumentacja Geograficzna, z. 2.
- Werwicki A., 1973: Struktura przestrzenna średnich miast ośrodków wojewódzkich w Polsce", Prace Geograficzne, nr 101.
- Werwicki A., 1976: Układ przestrzenny i fizjonomia miast w rejonie Wałbrzycha i Świdnicy w końcu XVIII w, Przegląd Geograficzny, t. 48, z. 4.

SUMMARY

The study of physiognomy is an important element of research into urban landscape. It has been widely discussed in geographical studies. The aim of this presentation is to show the development of Polish geographical research into the physiognomy of urban areas, as well as the role the Lodz geographical centre played in this development.

The presentation consists of two parts. The first part describes the main tendencies in the geographical study of urban areas physiognomy. The author presents the pre-war works where the study of physiognomy was the basis for urban space analysis. Next, the author discusses works that appeared after World War II and the study of physiognomy which was carried out part of land use and urban morphology analysis. In this case physiognomy was treated only as an element of a vast study of land use or urban planning. The second part of the presentation deals with a new approach to the study of urban physiognomy, which appeared in geographical analyses in the 1990s. At that time physiognomy started to be treated as a separate, individual issue again. The revival of such approach (found earlier, in works from the inter-war period and after 1945) resulted from the huge changes which took place in Polish cities in the period of the political and economic transformation. Such dramatic changes of urban landscape were often not reflected in land use or morphology analyses. Various forms of physiognomy analysis, which proved very useful in the study of this problem, developed at the Lodz geographical centre. This part of the presentation concerns the methods used by the author to describe the changes in the appearance and technical condition of the central part of Lodz and Tomaszow Mazowiecki. The method of point evaluation, based on P.Knox' works, is used here. The author will also describe the method of studying physiognomy changes based on the analysis of issued building permits, as well as the survey method (perception) used by the author himself. It allowed him to describe changes in physiognomy on the basis of the city inhabitants' opinions.