

## People-Environments Studies in Slovenia

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### Abstract

The paper is focused on the analysis of the people-environment studies in Slovenia and their development. A survey of both education and research activities and results indicates the variety of focuses and their specific intertwinement within the local circumstances. It is argued that the people-environment studies in Slovenia have been closely accompanying the global development, and that the condition of people-environment studies in Slovenia is comparable to the situation in the European Union.

**Key Words:** attitudes, environmental psychology, spatial sociology, cognitive maps, quality of life, planning, disasters.

### General Situation

People-environment studies, as the general frame for the studies of transactions between people (individuals, groups) and their environment (molar – molecular, social – physical), in Slovenia were rather closely accompanying development in the world. They were mainly connected to the work of the researchers from the university departments and institutes, and this situation has extended up to now. At the beginning, the development was going on rather independently inside a number of disciplines: sociology, geography, psychology, urbanism, architecture and landscape architecture, to mention only the most important. Already in sixties there were some studies and publications emphasising people-environment interactions, though limited to the separate sciences, and only to the rather narrow problems (e.g. influence of colours in the environment, physical conditions of work, sociological aspects of life in a newly built city). Later on, approaches became wider and interdisciplinary. Research work was accompanied by the introduction of relevant subjects and programmes into the university curricula, either at undergraduate as well as at graduate levels. There are many regular and optional subjects

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*Medio Ambient. Comport. Hum., 2003*

within the studies of architecture and landscape architecture based on (or supported by) the findings of spatial sociology and environmental psychology. Both fields enrich especially the advanced study levels, offered in architectural and urban planning/design courses. Landscape architecture from the very beginning in seventies included into its curricula spatial sociology and environmental psychology as regular subjects, while the relevant subjects were naturally presented in the curricula of psychology and sociology. In psychology discussions and research concerning environmental psychology appeared at the end of seventies, while in sociology even earlier, at the beginning of sixties. First book with the title "*Ecological<sup>5</sup> psychology*" appeared in 1984 (Trstenjak). Also a number of journals appeared, where relevant papers were published (e.g. *Anthropos*, *Urbani izziv* (Urban Challenge), *Arhitektov bilten* (Architects bulletin), *Sociološke študije* (Sociological Studies), *Zbornik Fakultete za arhitekturo* (Proceedings of the Faculty of Architecture), etc. Regular yearly public opinion pools which were dealing also with attitudes toward different environmental problems started in 1968 at the Faculty of Social Sciences. At the Institute of sociology research on the quality of life was conducted for several years, while at the Urbanistic Institute sociologists and urban planners were studying attitudes toward, and behaviours connected to newly established neighbourhoods, perception of environment, etc. A number of studies of cognitive maps of different communities and neighbourhoods appeared in eighties, and later, ending with the interdisciplinary Cognitive map of Slovenia in 1999-2000. Rather great attention was devoted to the psychological aspects of disasters (behaviour of people during earthquake, flood, landslide, refugee's problems, etc.). Nowadays a number of researchers, architects, landscape architects, psychologists, sociologists and urbanists are engaged in the field, and present also in the international research community. At the Faculty of Construction a number of studies concerning perception of the environment and its implementation into planning process was conducted. Environmental impact assessment (EIA) containing also a people-environmental aspect is obligatory for all greater projects in the environment. Similar

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<sup>5</sup> In psychology the term »Ecological psychology« was firstly applied in the sense of »Environmental psychology«, while nowadays the term »Okoljska psihologija« as a direct translation of »Environmental psychology« into Slovenian language is frequently used.

endeavours can be observed at the Institute of Architecture and Space of the Faculty of Architecture. We could conclude that the state of people-environment studies in Slovenia is comparable to the situation in the countries of European Union.

In the following sections we shall try to present more detailed view on the state of art in the field of people-environmental studies for different disciplines. Though interdisciplinary approaches become more and more frequent during the last years, researchers from different disciplines still spent majority of their research efforts inside their own particular field, causing sometimes unnecessary narrowness of their findings. To proceed from this situation we shall present brief overviews of the research that could be called people-environment studies for some of the disciplines.

### **Sociology**

Sociological research work as needed for regulation and planning of space<sup>6</sup> has a long tradition in Slovenia. Though some research projects about spatial and developmental issues were carried out already in sixties, still they are not put into effect as standard analytical preparation of spatial interventions. Managers and planners of space mostly showed interest for this kind of research only when they are confronted with the open conflict of interests, that is in the cases when because of strong public opposition proposed project could be stopped. Even available data collections are not frequently used. This situation is caused also by expert's narcissisms, which is still often stronger than the need to assure legitimate managing of public spatial issues. Justified is also the assumption that current unsuitable role of sociological studies in spatial planning is the consequence of the ignorance about past studies, even those carried out because of the needs of managing and planning the space. Perhaps relatively poor possibilities of accessibility<sup>7</sup> to the results of these studies contributed toward this state. To get an insight into the

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<sup>6</sup> While sociologists are talking about »space« and »spatial sociology«, in psychology the relevant terms are »environment« and »environmental psychology«. Perhaps the cause of this distinction could be traced into the first and also majority of sociological research that were devoted to urbanistic problems, what means dealing with consequences of constructing something in the space, filling the space. Psychologists were from the very beginning asking questions about different characteristics of the environment (colour, noise, temperature) and their influence. In a way every stimulus presents (or is a part of) the environment.

<sup>7</sup> At the Faculty of Social Sciences The Social Science Data Archive has been established in order to acquire data from academic research projects and government or commercial survey. The Archive Study description is accessible on <http://www.adp.fdv.uni-lj.si>

situation in the field of sociology we shall present few of the studies from about 40 years of research.

Already during the years 1964/65 Mlinar and Kavčič with their students conducted a sociological study of new town Velenje, what was first classical urban-sociological study conducted in Slovenia. They aimed at improving processes of integration of immigrants into the new town community, to sociologically support urbanistic planning, to improve quality of life in the town and to improve conditions of informing and taking part in decision-making of inhabitants concerning town matters. They used public survey on representative sample of inhabitants of Velenje.

In 1970 the researcher from Faculty of Social Sciences conducted a public opinion poll concerning public attitudes toward motor traffic, financing road construction, and other spatial and developmental problems of road infrastructure construction. This was the time of the construction of the first Slovenian highway, accompanied with a number of political problems.

Ten years later Makarovič (1980) and his co-workers from the Centre for spatial sociology<sup>8</sup> conducted a research concerning living conditions and environment protection in local community Zalog. In 1980 this was still pioneering work, and this was a rather rare case of interdisciplinary research (public opinion survey, measurement of noise and emissions into air), starting from the hypothesis that "subjective" perception is not necessarily in correlation with the objective state, what was confirmed. Surprisingly, knowledge about these differences did not influence a change in public opinion.

In 1983 Mlinar and co-workers from the same Centre conducted an urban-sociological research of the other new Slovenian town Nova Gorica<sup>9</sup>. Evidently administrators of the new towns were more sensitive to complex approaches toward managing and planning of urban space. The research was conducted as sociological preparation of town plan. Basic instrument was public opinion poll conducted on a representative sample of inhabitants. Urbanists and other experts collaborated in preparation of the questionnaire.

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<sup>8</sup> Located at the Faculty of Social Sciences.

<sup>9</sup> »Nova« means »New«. Nova Gorica was built across the old town Gorica which after the war remain in Italy.

In 1984, after 20 years town Velenje was again an object of the research efforts of the team from Center for spatial sociology (Makarovič<sup>10</sup> et al., 1984). The study was a preparation for the long-term plan of the community Velenje, and part of it was a public opinion poll.

During the period 1984-1994 at the Institute of Sociology and Faculty of Social Sciences a public opinion survey was conducted regarding quality of life in Slovenia. Rus and co-workers did a longitudinal survey, taking data four times (1984, 1989, 1991, 1994), with the main motive to complete dominating and one-sided economic measurement of social development with other indicators. A number of data concerning spatial planning were included into this research.

During the decade 1988-1999 sociologists Gantar and Kos, did a number of survey studies concerning different spatial and developmental problems of the Slovenian Capital Ljubljana, studying problems of city parks, squares, traffic, social spaces, etc.

During the years 1994-1997 Kos and co-workers from the Centre of spatial sociology studied public reaction to highway construction in Slovenia. From the beginning of nineties on this was one of the biggest construction projects in Slovenia, causing because of its size a number of local conflicts. Two public opinion polls were conducted on the representative sample of Slovenian population, as well as on the sample of people who live in the vicinity of the highway lines.

During more than thirty years Institute of Social Science at the FDV University of Ljubljana conducted a number of public opinion polls, capturing also a number of questions about the space, environment, values, and other questions. These studies are even more important than each of them by itself because of the possibility to follow the trends and changes in public opinion through the years. Thus it is possible to show that public opinion in Slovenia is becoming more and more sceptical toward environmental and spatial interventions, independently of expert's opinions. There is more and more opposition toward projects that present a rude intervention into natural environment. At the same time it is possible to get support for the thesis that critical apprehension of spatial interventions is mostly declarative, what means that ecological consciousness is still rather weak and strongly limited with the

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<sup>10</sup> Jan Makarovič graduated in psychology, but concern himself a sociologist, and was one of the most productive researcher and writer in the field.

modernistic *progresistic* story of success. Public opinion is not favourable of radical changes that would also mean deviation from classical modernistic developmental priorities (see support for highway construction). On the basis of these researches also more complex analyses and interpretations of conditions and development of society are possible.

### **Psychology**

While psychology in Slovenia was from the very beginning developing almost all of its classical, either theoretical or applied fields (e.g. cognitive, personality, developmental, social, educational, clinical, psychology of work, etc.), studies of people-environment problems were up to the end of seventies limited mainly to the research in the field of psychology of work and human factors. Psychologist Anton Trstenjak was internationally recognized because of his colour studies. Besides being a productive writer, university professor and researcher, he was also a good practician, helping with advices in colouring a number of public objects (TV station, hospital, etc.). While the first presentation of environmental psychology appeared already in 1977 (Polič, 1978), the first book was published only in 1984 (Trstenjak, 1984). People environment studies, carried out mainly at the Department of psychology during the last 20 years, could be classified into the following groups:

- psychological aspects of disasters and accidents, e.g. perception of threat, behaviour during the event;
- cognitive maps of the environment on different scales, from local community to the whole country;
- traffic behaviour and traffic environment;
- attitudes toward environment, its degradation, waste management, etc.

As Slovenia is exposed to a number of disasters (e.g. earthquakes, floods, landslides, droughts, storms, war, etc.) quite naturally a number of studies was conducted regarding people's perception of different threats and behaviour during these events. From the very beginning many of the studies were conducted by interdisciplinary teams (with landscape architects, sociologists, etc.). The first was the study of landslide accident in a small local community, while later in a number of studies behaviour during floods and earthquakes was studied. In a comprehensive survey

conducted in 1995 on a sample of 1004 inhabitants of Slovenia, their perception of threat and perceived characteristics of disasters, as well as their preparedness to take measures was studied, and comparisons between different localities were made. Strong dependency of answers on local circumstances was established. In a study of floods in the town Celje cognitive maps of threatened regions were acquired. The objective of the study (Polič et al., 1998) was to gain insight into inhabitant's perception of the danger. It was evident that perceived danger of floods depends also on the location of the respondent's home.

Cognitive maps present an important theoretical concept and methodological tool for the acquirement of the insight into the mental image of the environment. Since the beginning of eighties on, they were used for planning purposes on smaller and bigger scale also in Slovenia. The surveys covered many different aspects of man-environment relationships, and used a number of different techniques for acquiring cognitive maps. These efforts are presented in a number of studies, especially the study, conducted in 1999 - 2000 on a representative sample of the inhabitants of Slovenia (N = 1291). They were questioned about different aspects of their image of Slovenia, including their preferences for residence in different parts of Slovenia and Europe, comparisons of Slovenia to other European countries, partition of the country in regions, travelling patterns of the inhabitants in the country and abroad, environmental problems and solutions, possibilities of the development, etc. Methods used for the acquisition of mental maps presented only a part of wider surveys, where cognitive maps were later confronted and compared to other data. Data were acquired on a few tens up to a few hundreds randomly sampled participants, depending on a study. In a study that was conducted in the capital Ljubljana (Polič et al., 1984) researchers were interested in the interrelation of the subjectively defined neighbourhood and formally defined local community (LC), and quality of their functioning. Three municipal local communities from Ljubljana, that differed regarding their spatial structure, e.g. by distinctiveness of their boundaries, by a number of busy streets traversing them, by presence of a park, etc. were compared.

Slovenia is one of those European countries where traffic safety is still rather low. Therefore a number of studies were conducted regarding different aspects of traffic safety, from the behaviour and attitudes of

traffic participants to different aspects of interaction in the traffic environment. In recent study (Polic et al., 2000) traffic behaviour of pupils on the state roads in the vicinity of primary schools was observed, and suggestions for the improvement of situation made.

As in other parts of the world care of the environment, waste and waste management, etc. presented important problems. Already in 1986, a month after Chernobyl, a survey concerning low and medium radioactive waste was conducted on a representative sample of Slovenian inhabitants (Kozmik, Polič, 1986). As expected a strong NIMBY phenomena appeared. As the search for LILW repository is still urgent, a number of relevant studies were conducted during the last few years, either concerning earlier attempts to locate repository (Kos et. al. 1999) or testing different models of peoples conceptions of such a repository (Zeleznik, Polič, 2000).

It could be concluded, that though people-environment studies are not yet so developed as in sociology, their spectre is wide and need for them increasing.

### **Landscape Architecture**

The studies carried out during the last 15 years at the Department of Landscape Architecture can be classified into following groups:

- people's perception of the landscape visual qualities
- people's perception of the plants and flowers
- people's perception of the environmental qualities, degradations
- people's mental maps connected to the preferences of sites for various activities/interventions

The first type of the studies were carried out in order to understand which parts of the area affected by planning are ranked as visually more attractive within the general public. The results of the studies were directly applied in land use planning process (Marušič, 1988). It might be important to stress that the differences in the perception of the local population and visitors should be taken into consideration. How these differences are applied within the planning process depends very much on the planning goals.

The second group of studies are connected to the use of plant material for landscaping purposes. It is important for the landscape architect to understand the influence of the different characteristics of

plants, e.g. flowers, leaves, habitus, etc. on the people's perception of the landscape design arrangements. (Kravanja, 2001).

The third group of studies are common public poll inquires directly connected to the planning project. It is quite common that public poll inquire is done at the beginning of the planning project although it is not required by any legislative norm. It is expected that such an inquire would define at least some of the planning goals, the public attitudes and preferences, value system within the people affected by planning, etc. The type of the questionnaire depends very much on the definition of the planning problem.

Researches of the mental maps connected to the different issues that are important within the planning process are based on the presumption that plans are produced as maps, i.e. as a drawn representation of the ideas developed within the human mind. Asking people to express their thought by drawing the maps could give more direct information on their preferences about the spatial development although it is rather of the *gestalt* type, i.e. the drawings tend to express the comprehensive views while the individual information on the objectives, attitudes and criteria is hidden. It is the planer's task to disclose the peculiarities from such a *gestalt* information. The people can be asked to draw the best location for an intervention or the best areas for certain activity, e.g. the area to be planned as a landscape park (Polič et al, 1991) or site for an industrial zone, housing area, city park etc. (Bartol, et al., 1998). The type of question may range from definition of planning areas (Polič, 1991), the qualities of land, e.g. to disclose the peoples experiences regarding the agricultural land or the best sites for vine-growing, to the spatial relations between conservation and development of certain sites or areas (Golobič & Marušič, 2001).

The research of the mental maps seems to be very promising. It is important for planning because the people can express in a most direct way their visions about the spatial development. By drawing the maps they are *planning*. As already said these information tend to be comprehensive, a *gestalt* information. To disclose the various attitudes and preferences that are hidden behind such drawing the more complex profile of the questioned person should be obtained. Thus, the mental maps should be *supported* by other types of questions. The Department

of Landscape Architecture will continue to research the use of the mental maps within the planning process.

## **Architecture**

People-environment studies in architecture, urban planning and design focus their research efforts to the following themes:

### **1960-1980**

- colours in architecture
- perception in detailed urban design
- behaviour of pedestrians in urban space

### **1980-2002**

- notions of identity of/with space
- collaborative (urban) planning and design
- experts and users: effectiveness of architectural presentations
- distant learning and communication of identity of/with space

Pogačnik (1979) was studying visual information system and its use in urban planning. Information about visual-aesthetic relationships in space is taken from panoramic photographs. Views were inventoried and evaluated, and information is transferred into grid cells and thence into a computer data bank. In this study, this basic visual information is broadened into the field of sociology, through questionnaires about public opinion. Thus we incorporated the whole feedback loop - visual inventory - public evaluation - computer optimisation - testing on photographs. The crucial parts of the research are location criteria for different land-uses to give an optimal visual impact.

Pogačnik (1987) in his research stated the hypothesis of the unique scene of the city. Vista is defined in terms as it is reproduced on photos, paintings and as can be encompassed with one view. With the historical analysis of the city panoramas it can be proven, that they are mostly derived from similar archetypes such as axial composition with focal point, diagonal, complex-composition and many others. Based on these findings he ended with the proposals for altering the image of modern cities and landscapes.

One of the research projects (Ogorelec et al., 1993) defines the problem of relations to/with the public as, (1) problems of disturbances in communications and, (2) problems of relations between social groups

and problems of decision making. It gives a critical analysis of the present state and defines the reasons for it and states the starting-points.

Rihtar and Zupančič-Strojan (1996) find that there is a systematic survey of the elements of urban environment in "*Urban Space*". Starting point of methodology is based on the research of psychophysical relations between citizens and their environment, on historical experience, on economical use and also on affinity with cultural identity and abstract values. Objective level of research is examined by spatial influences on human subjective comprehension of urban space. The procedure of projecting spatial improvements or additions is based on criticism. The most important in judgment about environment are cultural and ecological viewpoints.

Gabrijelčič (2001) stated, that at the turn of the century we are witnessing fatal changes in human relations to the World. People no longer accept living under the cloak of great ideologies, but wish to decide individually about their lives, as well as about where and how they live and work. Cities are no longer important as exclusive centres of urbanity. A new, complex urban structure where new rules apply is emerging, forming a dispersed, fragmented and seemingly unconnected system, diverse and unique, temporary and unfinished, with a constantly open urban outlay. Modern tele-communications systems facilitate these new settlement patterns, tied to work from home. The construction of such hybrid housing types is becoming lighter, flexible and often temporary. Within this framework a new ecological aesthetics is being formed, based on the principles of complexity, hybridity, easy assembly, compatibility, modularity, additivity, duality, adaptability and recycling.

Berce-Bratko et al. (1997) studied relationships between man and Karst. The Karst eco-system is the most ecologically vulnerable, therefore it is of prime importance to re-instate the ancient balance between man and Karst region. The re-definition of the relationship between man and nature (Karst) is the main aim of the theoretical, methodological and practical part of the project Man and Karst. These goals will be achieved by an integral approach. Some particular results are put into practice in the course of the research and are an integral part of the development programmes.

Pogačnik (2000) carried out a research of public acceptability of the proposed changes in built environment (testing public opinion regarding

different design alternatives). A method of photo-interview is explained and demonstrated on large experiment executed in the city of Ljubljana. Differences in responses regarding gender, age, education and place of residence of the respondents were established. Research results show preferences of a sample of Slovene population regarding environmental changes by the end of the century

Zupančič-Strojan (2000) studied elements of urban design and identity. The study derives from analogies between the symbolic role of architecture and development of personal and social identities. The theme of identity is observed from the viewpoint of urban design, especially at its micro level, where the majority of people's everyday experiences take place. This overview is intended to provide a framework for a dynamic conception of identity as the base of all urban design endeavours of professionals and community groups to improve the quality of urban life.

Zupančič-Strojan (2001) in her study *The power of imagination* acknowledges the quantum-leap progress in technology over the last decades and addresses the question regarding the match of the technological progress and the capability of space planners and designers to fully exploit the available technology and develop a better understanding of space. Availing itself of the achievements of previous Alps-Adria conferences on vernacular architecture, the presentation analyses the effectiveness of spatial cognition and interpretation in the process of the analysis, evaluation and creation of space as a dynamic entity. The paper suggests several possibilities for a rational improvement of technique effectiveness and claims that a sensitivity for space challenges imagination. The search for a balance between the abstract and concrete space representation and the use of analogy in the design process may therefore promote innovative interpretation of space as a dynamic entity, thus boasting the power of imagination. The rational exploitation of modern technologies, however, should be accompanied by a quest for obtaining the innovative character of the timeless visual language which never goes out of fashion as it surpasses the influence of media development.

There are many other studies and conceptions within architecture important for people-environment studies, e.g. Internet and computer networks have considerable impact upon collaborative work patterns, and

are influencing the way architecture is conceived and produced. In these networked situations, distance-communication of design raises questions about the media used. Among these questions are: To what extent do architectural intentions and user expectations coincide through the means of various media, and are there principles that can be described to enhance their correlation? Does prior experience of a real environment have any effect on the perception of simulations of that environment? In addition to qualitative, are there quantifiable differences between the understanding of experiential and conceptual presentations? How can education of the *user* best minimize perceptual variations between physical and simulated environments to enhance projects where local communities collaborate in the design processes?

## Conclusion

Not all is said and much more remain to be done. Studies in geography, ethnology and some other disciplines relevant for these topics were not even mentioned. Nevertheless, from these overviews a pretty coloured picture of people-environment studies in Slovenia appeared. What is good is that although slowly, different disciplines are approaching each other. People and environment could hardly be compartmentalized and then selectively studied, as they present a gestalt. We hope that also this part of the picture is evident from this report.

## References

- Adlešič, M. (1957). *Človek in barve (Man and Colour)*. Ljubljana: Mladinska knjiga.
- Bartol, B., Golobič, M., Kavčič, I., Logar, J., Marušič, I., Mlakar, A. & Simonič, T. (1998). Anketno ocenjevanje kot način pridobivanja meril v postopku prostorskega planiranja. (The public poll inquire used to obtain the criteria for planning different land uses) *Urbani izziv*, 9, št. 2, 99-103.
- Berce-Bratko, Branka et al. (1997). *Človek in kras. (Man and the Karst)*, Urbanistični inštitut RS, Ljubljana.
- Golobič, M. & Marušič, I. (2001). Raziskovanje vrednostnega sistema interesnih skupin kot izhodišče za usmerjanje urbanizacije podeželja (Researching the value system of interest groups as the starting point for directing urbanisation of the countryside). *Urbani izziv*, 12, 2,
- Gabrijelčič, P. (2001). Fatal relations or the ease of settlement at the eve of the third millenium. V: Seljak, I. (Ed.). *Housing in constant evolution: proceedings*. Ljubljana: Faculty of Architecture, 204-217.

- Kos, D., Polič, M., Tivadar, B., Skušek, Z., Polak, M., Lobnikar, B. & Sotlar, A. (1999). *Analiza izkušenj v predhodnem postopku izbora lokacije za odlagališče NSRAO: mnenje lokalnih skupnosti. (Analysis of experiences during preliminary procedure of location choice for LILW repository: opinions of local communities)* Ljubljana: Agencija za radioaktivne odpadke, research report.
- Kos D., Polič M., Marušič I., Natek K., Klemenčič M., Kučan A., Repovš G. & Ule M. (2000). *Conditions and Factors of Residential Mobility/Stability in Slovenia, Housing in the 21st Century: Fragmentation and Reorientation*, Gavle: ENHR, CD-Rom and Internet.
- Kozmik V. & Polič M. (1986). *Javna stališča do odlagališča za nizko in srednje radioaktivne odpadke (Public attitudes toward the LILW repository)*, research report, Ljubljana: BTF
- Kravanja, N. (2001). *Načini doživljanja različnih drevesnih vrst. (The Modes of the Perception of the Different Tree Species. Zbornica Biotehniške fakultete Univerua v Ljubljani, Kmet. (1990), 77, 1, 59-69.*
- Makarovič (1980). *Pogoji bivanja in problem varstva okolja v KS Zalog. (The Living Condition and protection of environment in local community Zalog)*, RI FSPN, Ljubljana.
- Makarovič et al. (1984) *Sociološke osnove dolgoročnega planiranja družbenega razvoja Občine Velenje. (Sociological basis of longterm planning in Community Velenje)*, RI FSPN, Ljubljana
- Marušič, I. (1988) *Estetika gozda v prostoru. (The Esthetics of the Forests in the Spatial Context)* In: Anko, B. (Ed.). *Estetska funkcija gozda: zbornik republiškega seminarja, Ljubljana, 19. in 20. novembra 1987: proceedings of symposium, Ljubljana, November 19 and 20, 1987.* Ljubljana: Biotehniška fakulteta, VTOZD za gozdarstvo, 79-95.
- Mlinar, Z. & Kavčič B. (1965). *Ljudje v novem mestu. (People in the New Town)*, Inštitut za sociologijo in filozofijo pri Univerzi v Ljubljani. Ljubljana.
- Mlinar, Z. (1983). *Humanizacija mesta: sociološke razsežnosti urbanizma in samoupravljanja v Novi Gorici. (Humanization of the city).* Maribor: Obzorja.
- Ogorelec, B. (1993) *Tehnike in načini odnosov z javnostjo v procesu urbanističnega načrtovanja. (Technics of Public Relations in the Process of Urban Planning.* Urbanistični inštitut RS, Ljubljana.
- Pogačnik, A. (1979). *A visual information system and its use in urban planning. Urban ecol. 4, 29-43.*
- Pogačnik, Andrej (1987) *Prispevek k teoriji mestnega in krajinskega motiva. (Contribution to the Theory of Landscape and Urban Scene)*, Fakulteta za arhitekturo, Ljubljana.
- Pogačnik, A. (2000). *New achievements in the research of public acceptability of the proposed changes in built environment (testing public opinion regarding different design alternatives).* V: Fischinger, M. (Ed.). *Faculty of Civil and Geodetic Engineering on the doorstep of the millennium: on the occasion of its 80th anniversary.* Ljubljana: Faculty of Civil and Geodetic Engineering, 215-230.
- Polič, M. (1978). *Psihologija in človekovo okolje: "kaj" in "zakaj" ekološke psihologije, (Psychology and human environment: "What" and "Why" of Environmental Psychology).* Posvetovanje psihologov Slovenije, Ljubljana: Društvo psihologov SRS, 1978, 31-56.

- Polič, M., Mencin, M. & Marušič, I. (1991). Stališča prebivalcev do razvoja KS Grosuplje (The attitudes of the inhabitants toward the development of the local community Grosuplje). In: *Stališča prebivalcev občine Grosuplje do nekaterih vidikov njenega razvoja (Attitudes of inhabitants of Grosuplje toward certain aspects of its development)*, Grosuplje: Community Grosuplje.
- Polič M., Brilly M. & Tušak M. (1998). Vpliv kraja bivanja na zaznavanje poplavne ogroženosti (Influence of place of living on perception of treat from floods). *Acta hydrotechnica*, 16, 23, 85-95.
- Polič M., Zabukovec V., Žlender B. & Markl M. (2000). State Roads and Traffic Safety of Pupils, *IV. mednarodna konferenca Globalna varnost*, Ljubljana: ZVD, 449-455
- Trstenjak A. (1978). *Človek in barve (Man and colours)*. Ljubljana: DDU
- Trstenjak, A. (1984). *Ekološka psihologija (Environmental Psychology)* Ljubljana: Gospodarski vestnik.
- Zupančič Strojan, T. (2000). Elementi urbanističnega oblikovanja in identiteta = Elements of urban design and identity. In: Juvanec, B. (Ed.). *Raziskovalno delo 99: [zbornik raziskovalnih nalog 1999]: [proceedings of researches 1999]*. Ljubljana: Fakulteta za arhitekturo, 43-45.
- Zupančič Strojan, T. & Mullins, M. (2001). Towards viable models of architectural education in virtual design studios = K uspešnejšim arhitekturnim seminarjem v virtualnem prostoru. *AR*, 1, 82-87.
- Zupančič Strojan, T. & Mullins, M. (2001). Traditions and inventions of housing form: towards indirect interpretations of spatial identity. In: Seljak, I. (Ed.). *Housing in constant evolution: proceedings*. Ljubljana: Faculty of Architecture, 328-338.
- Železnik N. & Polič M. (2000). Acceptability of low and medium level radioactive waste repository. *Proceedings of the Int. Conf. Nuclear Energy in Central Europe 2000*, Ljubljana: IJS, on CD.