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Original scientific article

HUMAN BEHAVIOUR IN THE TERRITORY AFFECTED BY WAR CONFLICT: THEORETICAL-METODOLOGICAL NOTES AND EXAMPLES OF WAR AND POST WAR LIFE COURSES

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ABSTRACT

The paper presents theoretical and methodological framework for research into spatial behaviour of individuals and groups in their everyday life based on the principles of behavioural geography applying the concept of time geography. This concept is recognised as an appropriate tool for systematic research of activities. The presented methods are meant to prove the legitimacy of their use in research. Examples showed that the time-spatial budgets are a reliable tool for acquisition of information about behaviour and decision-making in everyday life of the chosen individuals on the territory of former Yugoslavia before and during the war in the 1990s and at present. The obtained data were visualised in 3D graphs. Diary data were supplemented by interviews which helped to understand individual behaviour in the context of social, cultural, economical, and political structures and norms in the pre-war and post-war environment of the eastern part of Bosnia and Herzegovina. Here described methods and their application are concrete examples how to treat and interpret the complexity of time-spatial behaviour of people in the land stricken by war conflict.

KEY WORDS:

Behaviour geography; Time-space activity budgets; Semi-structural interviews; Life-paths; Former Yugoslavia.

¹ ANA UHER: PhD. student in Institute of Geography Slovak Academy of Sciences in Bratislava. The subject of her research work is processes that affect the ethnic and religious situation in the former Yugoslavia. Individual approach to three different groups of respondents who lived in the territory of the former Yugoslavia and examine their life paths which were affected by their decision making based on their ethnic and religious affiliation. Being the part of the research team of the Slovak Academy of Sciences, I focus on the issue of the political, ethnic and religious dimension of the cultural landscape.

SAŽETAK

Naučni rad prezentuje teorijski i metodološki okvir za istraživanje prostornog ponašanja pojedinaca i većih grupa ljudi tokom njihovog svakodnevnog života, na osnovu principa behevijoralne geografije, unutar koje je primenjen koncept vremenske geografije. Ovaj koncept se smatra odgovarajućim sredstvom za sistematsko istraživanje aktivnosti. Sveobuhvatno predstavljene metode imale su za cilj da dokažu da je njihova upotreba u istraživanju legitimna. Na predstavljenim primerima smo pokazali da su vremensko-prostorni dnevnici (time-spacial budgets) dobar instrument za dobijanje informacija o ponašanju i odlučivanju u svakodnevnom životu odabranih pojedinaca sa prostora bivše Jugoslavije pre rata, za vreme rata 90-tih godina prošlog veka i u sadašnjosti. Ova saznanja su vizualno predstavljena u 3D modelu. Prikupljeni podaci u dnevnicima su dopunjeni intervjuima, kako bi se bolje objasnilo individualno ponašanje u kontekstu društvenih, kulturnih, ekonomskih i političkih struktura i standarda, predratnog i posleratnog okruženja istočnog dela Bosne i Hercegovine. Ove metode predstavljaju konkretan primer kako se može pristupati tumačenju tako složene problematike, kao što je ponašanje ljudi u vremenu i prostoru u području pogođenom ratnim sukobima.

KLJUČNE RIJEČI:

Geografija ponašanja; Budžet aktivnosti; Semikulturni intervjui; Životne staze; Bivša Jugoslavija.

Theoretical and methodological frame for the comprehensive analysis of everyday life

The end of the WWII brought about an evident change of methodology applied in humanities which also changed the style of thinking. It was associated with the process of quantification and theorizing which later led to important scientific progress. In the initial stage of the development the quantitative/spatial paradigm was based on human behaviour greatly influenced by economic criteria (Paulov, 2012). However, many scientists point out the fact that human behaviour is more complicated than merely rational and it diverges from the postulated behaviour (Paulov, 2000). Reasons are various, complicated and they change depending on dominant factors.

Along with the behavioural revolution in humanities (Krejčí, 1997) the conceptual basis of behavioural geography also developed under the effects of quantitative and theoretical geography. Behavioural approach appeared in response to some approaches applied in quantitative geography at the end of the 1960s. The interest in spatial theories, spatial analysis and computer methods led researchers, apart from other, to increased attention to spatial behaviour of humans and temporal organisation of data which resulted in opening of the new conceptual/research currents. (Paulov, 2000). Behavioural geography was also influenced by the cooperation with anthropology, sociology, psychology, and other sciences about humans and society. The new current in geography started to study everyday human activities, their manifestations in space and the perception of space by individuals or groups.

Behavioural geography is one of the sub-disciplines of human geography involved with cognitive processes. It emphasizes spatial reasons, decision-making and behaviour in space and time. "Behavioural geographers assert that the space around us is not perceived and recognized by individuals in the same way. It is because of the mental processes, which are connected with the amount and organisation of information available to the individual." (Matlovič, Matlovičová 2015, p. 128). The way of processing the effects of environment on the individual then influences their interaction with the environment. The essence of deliberation in behavioural geography is in the conviction that models of human behaviour and interaction may be improved if they are considered along with other relevant parameters associated with the behaviour, for instance, a decision about removal, choice of the new living place or quality of life (DaVanzo, 1978; Amedeo et al. 2009) or the themes connected

with the potential natural hazards or mental maps. Behavioural geography is linked with other behavioural and cognitive specializations such as the analysis of spatial or time-spatial dimension in sociology (Gieryn, 2000; Tickamyer, 2000; Mills, 2000; Lobao, Hooks, Tickmayer, 2007) or migration in the behavioural context (Ravnestein, 1885; Golledge, Stimson, 1987).

Time geography as part of behavioural geography

Emergence of what is referred to as the *Lund School* and the geography of time which was a follow-up to the human-ecological tradition in human geography meant a rather important step forward in the development of behavioural geography. Typical for this school is the stress on the study of time-spatial trajectories of individuals, which make it possible to comprehend the way individuals apply their experience, ideas, tools, and technology in their everyday life (Hägerstrand, 1963; Carlstein et al., 1978; Ellegård, 1999; Ellegård, Svedin, 2012). Time geography is based on the presumption that any activity or event in individual's life possesses a proper temporal and spatial dimension (Díaz-Muňoz et al., 1999; Matlovič, Matlovičová, 2015). It is the reason why the research focused on human's day, year or entire life, takes into account their relationships with other individuals and institutions or the need to use natural resources. Great emphasis is put on the way the individuals develop their strategies and behaviour in circumstances that are out of their control. The research is trying to establish the ways to influence and improve such situations in order to provide for the basic living needs (Ellegård, de Pater, 1999). These basic geographical dimensions, that is, time and space along with the factors which influence them and various aspects of life allow us to comprehend the processes and to explain events that take place during human life. Díaz-Muňoz et al. (1999) assert that although time geography is interlocked with the lowest unit accessible to social research it is probably the only level where the combination of physical, economic and institutional factors and their effects on individual's everyday life can be studied.

The concept of time geography contributed to the analysis of human life. In the context with the physical environment it is able to reveal outer stimuli in analysed episodes which influence certain decisions starting by the common ones such as the consumer habits, removal in pursue of education or work up to the aggressive impulses such as migration because of life at risk in a war. Such circumstances stimulate the human to activity which is not described as usual.

Díaz-Muñoz et al. (1999) presented a didactic approach using time geography as a tool for learning and comprehension of long-time social processes that started in the past and peaked at present. They used the time-geographical concepts in order to show how the social processes develop and what role plays social cohesion and social patterns for later generations. Authoresses describe time-geographical situations in individual's everyday life in order to explain the formation of social processes. The selected sample of women of different generations, social position and experience with the then existing technology, was used for explanation of social changes in the past and described everyday life of women in agricultural, industrial and post-industrial Spain.

Lenntorp (1999) believes that time geography rather that theory should be perceived as the basis for the construction of theory. Later the research expanded and deepened. Time geography enriched geographical thinking by 52 important and often used concepts for understanding of certain events and social interactions. He quotes among the most frequented ones the everyday life, budgeting, domain, landscape, fabric, individual, life trajectories, path, process, station and time-space. Perhaps the most important concept in this context is trajectory which describes movements of the individual in time-space. Individual's life course begins with the birth and ends with the death. The concept of a part of life course such as the daily course, week course, etc. can be easily graphically interpreted. The prominent geographer Torsten Hägerstrand and his team contributed to the empirical advance in this scientific approach, particularly with their Use of Time and Ecological Organization project. "Hägerstrand was convinced that it was extremely important to build bridges between nature history and humanities and that his contribution was the development of concepts and the worldview comprehensible by scientists on both sides" (Ellegård, Svedin, 2012, p. 13). While his early works were mostly quantitative, Hägerstrand devoted more attention to individuals and their trajectories in his later studies. Trajectories of individuals as life courses recordable in the time-spatial dimension became the fundamental concept of Hägerstrand's time-geographical approach (Hägerstrand, 1970; 1975; 1978).

Methods of time geography

Swedish geographer Ellegård greatly contributed to the development and presentation of time geography. She elaborated the method applicable to the study of individual's and household behaviour. She was also involved with the study of life paths. In her studies she uses one of the time-geographical methods, i.e. time-spatial scheduling or lifespan budgets with the aim to analyse demanding activities common in any human's everyday life based on journal records. Ellegård (1999) also contributed with her definition of four contexts applicable in the time-spatial approach: project context, everyday attitude, social context, and geographical context. These four contexts may be applied to the analysis of the strategy concerning distribution of everyday activities among individuals, members of a given collective such as family, work team, and other. Contexts are presented by simple illustrations of individual trajectories which represent movement of individuals in space and in certain time period.

The method of time-spatial records traces the events and phenomena in individual's everyday life by means of time-spatial scheduling or diaries of life courses (Ira, 2006). It makes it possible to capture everyday activities of individuals within the complex of social and spatial interactions. Selected respondents record their everyday activities in journals noting the time and kind of activity pursued, place (geographical context), where it was pursued, in whose company (social context) and the transport means used (transport context) during the particular activity. The scope of the method is broad. It can be used in geography for the assessment of time use in household, for the analysis of urban transports, use of energy, analysis of the quality of life and health for planning and implementation of social reforms (Thrift, 1977), and for the assessment of time-spatial behaviour patterns of people in conflict situations.

Other of the many methods often used for data collection in behavioural geography are the structured or not structured interviews and questionnaires. Interviews, in difference from questionnaires with fixed questions and with answers somewhat limited by such questions, represent an excellent method of collection of information. They help to fulfil the gaps that are not covered by other methods. Benefits of interviews are also in the possibility to capture a variety of views, personal experience and motives of behaviour (Rochovská, Káčerová, Ondoš 2014). Unstructured

In his article about migrations, Hägerstrand presented one of the first graphic records characterising individuals as courses or trajectories in the time-spatial dimension (Carlstein et al. 1978 In Ira, 2001). He created a grid diagram with records of all events in individual's behaviour within the delimited time basis in a four-dimensional space (Fig. 1). Movements and changes in the geographical space were represented by courses or trajectories in time-spatial map (Matlovič, Matlovičová, 2015). "The graphic format of time-geographical records is in special position on the interface between the verbal description and mathematic formulation, as a kind of bridge between them. Map, which used to be the traditional way of expression in geography though, mostly works with objects and organisms in a more or less stationary way. Although spatial flows can be mapped, it is better to use the way of expression which takes into account the dynamic view of nature and culture" (Ira, 2001, p. 233).

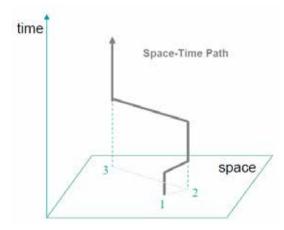


Fig. 1 Space-time path

Source: Hägerstrand, T., 1982. Diorama, path and project.

Sinha and Mark (2005) provided the proof that this discipline has a potential for interdisciplinary research using the geospatial lifelines to model residential histories within a geographic information systems framework (Fig. 2). "Clusters of geospatial lifelines represent individuals who have similar residential histories—and therefore represent people who are more likely to have had similar environmental exposure histories" (Sinha, Mark, 2005, p. 117).

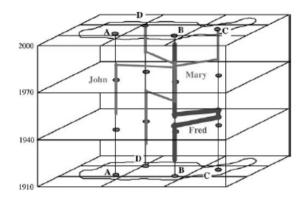


Fig. 2 Geospatial lifelines describing residential histories of individuals

Source: Sinha, G. and Mark D., 2005. Three life courses are presented in a time-spatial cube where axes *x* and *y* represent the 2D dimensional projection of geographical space and axis *z* represents time.

One of the tools for the analysis and interpretation of data is a trellis (Vincent, 1989). The trellis demonstrates relationships between activities and places where they occur on examples of individuals. Lately we have been witnessing graphic methods of visualisation where it is possible to present the researched issue in 3D graphs with the help of the GIS tools. This method based on time-spatial approach makes it possible to illustrate the analysis of time-spatial budget data of life courses of both the individuals and groups in interdisciplinary environment resulting in better understanding of the complexity of everyday life of individuals, households and various socio-economic groups in a particular case study.

Brief presentation of selected methods applicable to research of the life courses of individuals affected by war conflict on the territory of former Yugoslavia

The key point of the research carried out in the former Yugoslavia when applying the time geographical approach were the time-spatial activity budgets, diaries from the period of civil wars in the 1990s and the post-war life. Individuals in the selected group (32 respondents from Bosnia and Herzegovina) were asked to put down the details about their life courses as influenced by war events while the anonymity of respondents was respected. Individuals were expected to answer the following questions in their diaries:

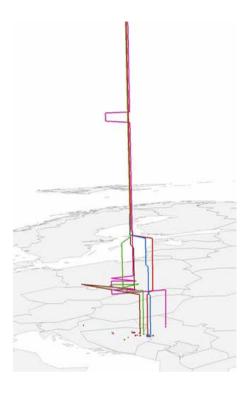
- time when the activity started (time context),
- nature of the activity carried out (economic context),
- place where it was carried out (geographical context),
- persons accompanying the individual in activities (social context),
- transport means used for interconnection of contexts,
- and other parallel activities, if there were any, plus notes.

The diary data were supplemented by an interview consisting of 27 questions. The questions inherently sought for motives, factors and causes in the sphere social, cultural, economic and political structures that might have influenced behaviour and decision-making of respondents in their everyday lives in the pre-war and post-war environment of the eastern part of Bosnia and Herzegovina. Face-to-face interviews were individual and respondents were given the space and opportunity not only to express their personal opinion but also to share their life experience. Anonymity was guaranteed.

Fig. 3 demonstrates the method of data collection and Fig. 4 illustrates visualisation of life courses.



Fig. 3 Time-space activity budget (F, 45 years, Tuzla) Source: Proper arrangement of data.



 $Fig.\ 4\ Visual\ interpretation\ of\ budgets\ of\ five\ respondents\ from\ Bosnia\ and\ Herzegovina$

Example of visual interpretation of budgets, example of five respondents grouped into one 3D graph. Vertical lines represent the time context, duration of some activity in certain geographical space. Every interruption or diversion meant change of direction of the movement of time axis and its duration. Time span used in the construction of 3D graph is from 1990 until the present. The common graph for five respondents captures the most intensive movements during the war. Before and after the war there were no important changes in place of living recorded i.e. if not for the war, the respondents would have lived all their lives in the places they were driven out of.

Source: proper arrangement of data.

Conclusion

Time-geographical approach seems to be an appropriate basis for the empirical research of a comprehensive set of factors that influence human's everyday life and their behaviour in the territory of the former war Yugoslavia. Application of the approach should provide explanation and understanding of interlinked contexts of everyday life and their effects, as well as deeper knowledge of situation both of individuals and groups.

Time-spatial records of everyday activities of the participating respondents make it possible to identify the social context which includes all individuals participating with the activities of respondents. They created a complicated picture of how people meet each other in everyday life and carry out activities oriented to satisfaction of their needs. Such picture may bring additional interesting knowledge from the point of view of sustainable or unsustainable way of life depending on social context and it will be subject of more detailed analyses.

As the final aim is the most comprehensive knowledge possible of the life of selected individuals living in eastern part of Bosnia and Herzegovina, the diaries were complemented by the life histories described in semi-structured interviews with respondents, direct participants of the 1992-1995 war events. Respondents were expected to provide their personal views concerning perception of their own ethnicity or religion, how they were expressed before the war and at the present, while there was a consequent effort not to influence the objectivity of answers during interviews and the later analysis. Like the diaries, these interviews will be presented in a graphic form, too.

The aim of this paper was to provide a survey of possibilities inherent to the methods of behavioural geography in research of such complicated issues like ethnic and religious structure and the associated processes in the territory of the former Yugoslavia and now Federation of Bosnia and Herzegovina. The sample of the 3D graph used in this study illustrates movements of individuals in time and space. As the obtained data are not sufficient for a deeper analysis of processes ongoing in the research territory, the following analysis of interviews will provide the option of deeper interpretation of motives and factors that influenced behaviour of respondents.

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