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Introduction

The ultra diversified and continuously transforming contemporary society, that man itself is obliged to comply with, has imposed on geography to embrace trends radically different than the ones several decades ago. Geography is a complex science tangent to and in close connection with other sciences. In parallel, as an independent branch, medical geography was developed, with a keen orientation, on the one side, on the revealing of illnesses in a geographic territory, and on the other, on the measure in which the natural and social environment can influence illness manifestation and the health level of the population.

This medical geography study, applied to the town of Cluj-Napoca has been realized according to a methodological arsenal and an original conceptual theoretical concept, which houses an ample approach, structured in six chapters. The sections of our study have been organized as follows:

Introduction – where I have stated the reasons for my choosing this research subject and have underlined several general considerations regarding the study object aimed at.

Chapter 1. Medical Geography: theoretical and methodological basis – where I have defined and explained the concept of medical geography and the evolution of this concept. Also, I have clarified the object of study for medical geography, I set out the theoretical, conceptual and methodological frame of the discipline, as well as the history of concerns and research on health condition, and highlighted the most important steps in the field, both internationally and nationally.
Medical geography represents a sub-branch of social geography and is different from the others sub-branches in that it intersects medical studies on health, which has determined various authors and various discursive instances to propose names such as: geographic medicine or geomedicine, the medical ecology geography, pathological geography, the geography of health and illnesses and more recently, the medical assistance geography, the geography of health and sanitary services.

Geography is a spatially and socially complex science, although concepts such as “space” or “social” are not exclusively used by geographers. The fundamental problems that geography touches at are structured on the major distinction of: physical geography, human geography and regional geography. The present study focuses on human geography, a branch of geography that has developed research directions, has overspecialized in order to give birth to new sub-branches, knowledge domains and even autonomous sciences: population geography, economic geography, the geography of settlements, the geography of tourism, the geography of circulation, politic geography, social geography. Medical geography is a recent science which has appeared within the context of the new epistemological paradigms brought forth during the second half of the XX century and which aims at creating connection bridges and a true dialog between various sciences. It is a sub discipline of the social geography, which deals with interactions between humans and the environment. The object for study of the medical geography is the health condition seen from a Holistic perspective. It includes society and space and idealizes, at the same time, the role of the location, emplacement and geography in health, as well as health conditions and illness.

Medical geography approaches health from a spatial perspective and from the point of view of its dynamics in time. Being, as it is, a relatively recent field of study, lacking a well-founded methodological basis, not only in our country, but on an international level as well, it has been insisted both on the quantitative and qualitative dimensions of human health, but highlighting evaluation patterns and their interpretation through the biases of statistic and “on the field” investigations (Dumitrache, Liliana, 2004).

Medical geography recognizes the importance of context, place and level of spatial approach – from global to local, in order to establish the causes and benefits
linked to the health condition. The key factors of the health condition are complex, thus requiring an integrated, multi and trans disciplinary approach in order to guarantee the certainty that the research work offers relevant qualitative proof for the founding of health condition politics. The problematic on which medical geography casts its concerns is very ancient so that we can talk about an evolution and a dynamic of specific medical geography concerns.

![Diagram of Medical Geography within Social Geography](model of Cocean, P., Rotar, Gabriela, Ipatiov, F., 1994)

Understanding human health in connection to the environment represents the contribution of medical geography, individualized by the fact that it opens “the health problematic” towards the social system as well as towards the geographic space.

Chapter 2. The town of Cluj-Napoca: territorial, demographical and functional evolution, represents a thematic segment where the town of Cluj-Napoca is presented, equally, as a necessary support to the continuation of human existence, but also as a theoretical, spatial and conceptual frame which assumes the development of biologic, physic, anthropic and cultural processes; this section is set out to be a statement and explanation of the historical evolution of the spatial context, which will grant us a better comprehension of the spatial reference frame to which our study is applied.
This chapter has tried to seize the urban genesis and its dynamics from a territorial, demographic and functional perspective. Aside from being a really old town, the town of Cluj-Napoca is also the result of a long and dynamic process of shaping of a geographic space within the frame of very sinuous line.

The study has highlighted the structuring and development steps starting from the ancient times, with a reflux during the second half of the Christian millennium, reviving to a genuine reference point in the Transylvanian and central-European space during the Middle Ages, followed by being crowned a true political, but even more so cultural capital of Transylvania and culminating with the flourishing metamorphosis during the contemporary age. The town of Cluj-Napoca, is without a doubt, since the beginning of the third millennium, a space of becoming, an ever more complex urban model and a reference point of the topos where tradition meets and ennobles modernity.

Chapter 3. The analysis of the health condition of the population in the town of Cluj-Napoca analyzes the health condition of the population in Cluj through various geodemographic factors, environment and behavior factors, inventorying elements that will constitute a specific dynamic of health that will be quantified under the form of a specific model of the population’s health from this geographic environment. The particular model of the health condition of the population in Cluj was built through the juxtaposition of some morbidity and mortality models and due to the capacity of the medical system in Cluj to deal with challenges in this area, having as a result the amelioration and improvement of the health condition. The territorial system in Cluj can be understood only in relation with the environmental context which supports and develops it, and equally in relation with the behavioral factors and with the general mentality of the Romanian culture. The analysis revealed that there are notable differences in terms of hope of life and general mortality, especially the infantile mortality, between the median national values and the ones registered at the municipality level. From a structural point of view, the main causes of the “mortality in Cluj” are not different from the Romanian or European model, but the balance percentage confirms the necessity of very strong mechanisms, capable to differentiate, to modify and to singularize the casuistry of mortality. Likewise, the general morbidity model maintains broadly the features of the Romanian model, keeping to the main categories of diseases,
but with significant mutations in the balance percentage. In the case of chronic morbidity there is a firm and specific reconfiguration, having at the top the cardio-vascular diseases, followed by hyperglycemia, chronic pulmonary diseases, cirrhosis and chronic hepatitis. Generally, chronic diseases are the consequences of the way of living and influenced by its circumstances. The chronic morbidity model confirms an appreciation in the importance of the place and manner of living. Therefore, we can state, on the basis of our analysis, that in Cluj-Napoca *one lives and especially dies otherwise*. The analysis highlights a model of refinement and individual and collective assumption of the entire “health potential”. This specific model of health evidences that the existence in the area of a specific topos characterized by socio-economic conditions, environmental conditions and having a specific behavior and mentality, could determine a certain structure of the health condition in that geographic area.

**Chapter 4. The medical system in Cluj** was defined as a functional sub-system within the same territorial system, responsible for the practice of the medical functions through the medical services they deliver in the purpose of maintaining, promoting, optimizing and developing the health condition of the population. It is structured starting with the medical school in Cluj, it uses a complex medical-sanitary infrastructure and it has a professional medical-sanitary personnel, which all contribute to the functionality of the medical system through the valuing of all medical resources inside the territorial system in Cluj. The confirmed hypothesis was that the medical system in Cluj represents a sub-system within the territorial system, responsible for the practice of the medical-sanitary function. The analysis demonstrated the great evolution of the medical system in Cluj, the dynamics of each component, starting with the tradition of the medical school in Cluj built-up on the work of the great professors and mentors that is structured around the University. The medical system in Cluj develops a performing medical infrastructure as well as an exceptional staff, successfully transforming them in high quality medical services, especially within the professional institutes, authentic models of competency and professionalism. In relation with the multiple comparative references, the study of the medical system’s dynamics in Cluj invariably revealed the systemic performance, the infrastructure’s quality, its diversity and practical relevance, shown by the evolution of the *index of the medical-sanitary services* as well.
The study of the infrastructure and of the medical-sanitary staff evidenced their diversity and high quality, which may represent the sustainable foundation for the maintenance of the health condition of the population; furthermore, they can be considered as a veritable frame of reference for the maintenance and the care for the health condition of a wide spectrum of the population in the county of Cluj, in the North Western development region and even in the entire Transylvania, outlining a real “region” having a variable geography, in which it exercises its polarizing medical function. The study revealed the features of the medical-sanitary infrastructure in Cluj, distinguishing its dynamics and evolution, the morpho-functional diversity, the structural modernity applied in medical activities, its irrefutable high quality and significant polarizing nature, in a variable geographic space. Obviously, our inquiry highlighted a series of deficiencies in the system as well, due to both the general evolution of the Romanian society and, especially, the indistinct and inconsistent vision of the reform waves in the Romanian medical system.

Chapter 5. Using methodological instruments specific to the medical geography, the medical polarization of the town of Cluj-Napoca allowed us to define medical polarization as the result of the functionality of the medical system in Cluj, as well as the structure of these polarization forms. Medical polarization is a specific type influence on the environment, performed by a polarizing center, throughout its excess of medical resources.

The analysis of the medical polarization led to a structure of polarizing types and forms induced by factors such as: educational medical institutions, the tradition of medical school in Cluj, medical residencies, the quality of the human resources and of the medical-sanitary infrastructure. All these criteria describe the degree of appropriateness and usage of the medical resources that the “center” - represented by the medical system in Cluj – has and uses in the manifestation of its medical function. In order to perform a systemic approach, we endeavored to unfold, in the first instance, a series of references to the elements “center” and “area of influence” from a theoretical-conceptual point of view, and secondly, throughout a system of quantification and valoric determination of the flows and complex relationships established between the center and the area of influence.
The analysis of the medical polarization led to a structure of polarizing types and forms induced by the following factors:

- Educational medical institutions;
- Cultural and multicultural institutions;
- Medical residencies;
- Medical school’s tradition in Cluj;
- High quality of the medical-sanitary infrastructure;
- High quality of the medical assistance (human resources);
- Reputed specialists.

All these polarization forms were studied in the purpose of obtaining a more precise image of the amplitude of the medical flows and the degree of appropriateness and usage of the medical resources that the “center” has and uses in the manifestation of its medical function.

Through the power of tradition and as an actual estate created by the interaction of some objective factors, the town of Cluj-Napoca is one of the largest medical-sanitary center in our country, both from the point of view of the extremely high volume of health-related services offered to the population, and from the point of view of their diversity and quality. Due to all these, it is perceived as a gravity center towards which, principally, the population of the rural environment of the county of Cluj-Napoca is directed, but also the population of the North Western regions, of Transylvania and of other counties in the country.

Chapter 6. The strategy of optimizing health condition was shaped starting with the description of the health condition of the population of Cluj-Napoca, re-building the model of specific health. The negative and positive aspects having an impact on health condition were indentified and a radiography of the working, financing and transforming of the medical system in the European, national and local context was performed. In a comparative perspective with the European level, both the national medical system and the medical system in Cluj, face some major challenges that can be expressed through the following symptoms: sub-financing and inefficient usage of resources, low and inequitable access to thorough-bred services, bad management of human resources, poor
attention to the health promoting services and bad management of the information. Having this diagnosis as a starting point, we outlined a discursive effort capable to offer punctual and systemic answers so that the local medical system, as well as the national one, could be optimized to become a support frame that facilitates and improves the health condition of the population. In the light of this final synthetic analysis, we identified and described a series of objectives and strategic relatively general targets through which we aimed at creating a constructive perspective on the optimization of Cluj population’s health condition. The projection targeted the altering of key health condition factors, the optimization of the impact of behavioral, socio-economical and environmental factors and the optimization of the medical system in Cluj.

**Conclusions:**

The present doctoral dissertation entitled *The town of Cluj-Napoca – a medical geography study* has proven to be, from a medical geography point of view, a complex analysis of the town’s population dynamics.

From a transdisciplinary perspective and by integrating the data provided by the statistic, medical and sociological approach within the geodemographical dynamics of phenomena and its anthropological and cultural dimension, the purpose of this intercession was focused on the complex analysis of the health condition of the population in Cluj-Napoca in relation to the factors that determine it, thus building a methodic approach specific to the recent studies in medical geography.

The results of this study are useful to local public authorities, medicines, non governmental organizations, public institutions and private companies by offering them starting points for actions meant to improve local health risk factors, actions through which the Cluj community can act to the benefit of its own health and become its own creator.

To conclude with, it can be stated that, far from loosing its importance during this informational age of technology, the human factor must learn to protect and improve its health condition, its welfare, because it determinately reverberates in any system, on any continuous development. The effort of this research has risen in our minds a more
A profound query on the health of the people in Cluj-Napoca, on the possible development of this space and on what the people here can and will become…

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