

FRIEDRICH RATZEL'S METHODOLOGICAL CONTRIBUTIONS TO GEOGRAPHICAL SCIENCE

As contribuições metodológicas de friedrich ratzel para a ciência geográfica

Las contribuciones metodológicas de Friedrich Ratzel para la ciencia geográfica

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Article History

Received: november, 2020

Accepted: 30 january, 2021

Published: 25 february 2021

SUMMARY

The Prussian Friedrich Ratzel (1844-1904) is one of the main names of Classical Geography. The author of works such as “Anthropogeographie” and “Politische Geographie”, he elaborated a broad theoretical and methodological body, which contributed significantly to the development of geographic science. Themes such as the relationship between man and environment, the State, society and the territory, in addition to the formulation of the principle of extension and the concept of “Vital Space” and the proposition of the hologeic approach are some of its main contributions and objects of discussion of this article. It is concluded that Ratzel's works, despite the criticism directed at him, many of which are mistaken and not consistent with his ideas, contain very current and pertinent reflections on geographical studies, so that the rescue of such ideas is essential for understanding the very essence of geography. This article aims to demystify the deterministic view imposed on the geographer in question and is based on a theoretical framework in which several authors contribute to such demystification. We used the reading, the bibliographical consultation, the hermeneutics and we concluded that the “label” of radical determinism imposed on the geographer Friedrich Ratzel is exaggerated and riddled with flaws and mistakes.

Keywords: Ratzel; Determinism; Living Space; State; hologeic.

RESUMO

O prussiano Friedrich Ratzel (1844-1904) é um dos principais nomes da Geografia Clássica. Autor de obras como “Anthropogeographie” e “Politische Geographie” elaborou um amplo corpo teórico e metodológico, que contribuiu significativamente para o desenvolvimento da ciência geográfica. Temas como as relações entre o

homem e meio, o Estado, a sociedade e o território, além da formulação do princípio da extensão e do conceito de “Espaço Vital” e a proposição da abordagem hologeica são alguns dos seus principais contributos e objetos de discussão desse artigo. Conclui-se que as obras de Ratzel, a despeito das críticas a ele dirigidas, muitas das quais equivocadas e não condizentes com as suas ideias, contém reflexões bastante atuais e pertinentes aos estudos geográficos, de modo que o resgate de tais ideias é primordial para a compreensão da própria essência da geografia. Este artigo tem como objetivo desmistificar a visão determinista imposta ao geógrafo em questão e se apoia em um referencial teórico no qual vários autores contribuem para tal desmistificação. Utilizamos a leitura, a consulta bibliográfica, a hermenêutica e concluímos que a “pecha” de determinista radical imposta ao geógrafo Friedrich Ratzel é exagerada e eivada de falhas e equívocos.

Palavras-chave: Ratzel; Determinismo; Espaço Vital; Estado; Hologeica.

RESUMEN

El prussiano Friedrich Ratzel (1844-1904) es uno de los principales geógrafos de la Geografía Clásica. Autor de obras como "Anthropogeographie" y "Politische Geographie", elaboró un amplio cuerpo teórico y metodológico, que contribuyó significativamente al desarrollo de la ciencia geográfica. Temas como las relaciones entre el hombre y el medio, el Estado, la sociedad y el territorio, además de la formulación del principio de la extensión y del concepto de "Espacio Vital", y la proposición del enfoque hologeico son algunas de sus principales contribuciones y objetos de discusión de este artículo. Se concluye que las obras de Ratzel, a pesar de las críticas a él dirigidas, muchas de las cuales equivocadas y no concordantes con sus ideas, contienen reflexiones bastante actuales y pertinentes a los estudios geográficos, de modo que el rescate de ellas es primordial para la comprensión de la esencia misma de la geografía. Este artículo tiene como objetivo desmitificar la mirada determinista impuesta al geógrafo en cuestión y se basa en un marco teórico en el que varios autores contribuyen a tal desmitificación. Utilizamos la lectura, la consulta bibliográfica, la hermenéutica y concluimos que la “pecha” del determinista radical impuesto al geógrafo Friedrich Ratzel es exagerada y plagada de fallas y errores.

Palabras-clave: Ratzel; Determinismo; Espacio vital; Estado; Hologeica.

1 INTRODUCTION

This work aims to discuss the importance of the German geographer Frederich Ratzel, and, in particular, his methodological contributions to geography. One of its exponents is the Prussian geographer who is the center of the discussions in this work.

In most of the works that refer to the genesis of geographic science, the idea that such science was at the service of imperialisms, sometimes German, sometimes French and also English, is notorious, as Capel points out (1981, p 173).

This official concern for the studios of the colonial countries corresponded to a strong social demand on the part of the bourgeoisie for the knowledge of both countries, with a view to commercial exchanges and the diffusion of industrial production and European culture. As Ratzel said, with reference to the usefulness of geographical science.

The author, Horácio Capel, reveals the nature of 19th century geography and its connections with the “bourgeois revolution” in the formation of European territories at the time, as well as in the processes of territorial expansion. Such connections point to methodological questions about geographic science that was developed in line with scientific production in the context of the old continent.

It was two German scholars: Alexander Von Humboldt and Carl Ritter who instituted the scientific character to geography. Others, such as Hettner, proposed that geographic science was born from the need to systematically explain the relationship between different points on the earth's surface, because:

If there were no relationships between the different points on the Earth's surface and if the different phenomena located in the same place were independent of each other, no conception would be necessary. The system of sciences and the place of chorological geography. But the existence of these relationships, which the systematic and historical sciences allude to or can only deal with, makes a special chorological science of the earth necessary. This science is geography (HETTNER, 2000, pp. 145-146).

Thus, from these elements of analysis, geography reserves its place as a special chorological science of the earth, in the sense of filling the gaps regarding explanations about spatial phenomena and their interdependencies. Until then, geography constitutes a science that investigates natural phenomena and serves the ideals of expansion and territorial conquests. In later years, Yves Lacoste (1976) ¹writes a book to deal with this second aspect mentioned above.

Still other scholars have inferred from geography various titles and various connotations. This is the case of Peschel, Richthofen and Marthe, who delegated to geography the status of: science of the earth's surface, science of the where of things, among others.

It seems to us, therefore, that, until that moment, geography lacked a safer and better systematized methodological construction, as it had been limited to the analyzes of nature, the physical environment and the earth's surface.

¹ In March 1976, Lacoste wrote the book “Geography no good but for war”, a title that, in a later edition, was changed by the author to “Geography - that serves, in the first place, to make war”. The change was made to prevent readers from thinking that, in the author's view, geography serves only for the elaboration of military strategies, when his objective was just to say that this is the oldest function of scientific geography (Luis Lopes Diniz Filho. Epistemological foundations of geography Curitiba: IBPEX, 2009 (History and Geography Teaching Methodology, 6).

After these first steps, geographic science continues on its course of “improvement” like any other science will be contemplated with new paradigms and new methodological forms that are intended to contribute to the general framework of human knowledge. And it is in this context that the important contributions of Frederich Ratzel appear. His work as a geographer was, according to Mendoza (2002), deeply influenced by Humboldt and, in particular, by Carl Ritter. In addition to the founders of geographic science, Peschel and a range of other geographer authors also had a great influence on his trajectory regarding geographic science.

Outside of geography, Ratzel was, according to Moraes (1987), influenced by two great authors of philosophy, namely: Kant and Herder. Geography greatly needed the way these philosophers saw the world to even understand and explain this world. Thus, Ratzel's work and thought will be based on this triad of authors (Ritter, Herder and Kant). Another great and no less important influence on Ratzel's trajectory comes from biology with Charles Darwin and his evolutionary theory. It is important to note that Ratzel's first profession was that of a zoologist.

Kantian and Herderian philosophy, thus had great weight in the epistemic formation of Ratzel's geography and, why not say of geography itself, since Ratzel is considered one of the most important names in the so-called modern human geography.

But what made and still makes Ratzel figure, or return to figure² with such prominence in geographic science? It is he the one who brings to the heart of this science, according to Carvalho, (1997), the notion of “human”. In addition to being a pioneer in themes such as geopolitics, totality, complexity and system, in his geographical formulation, Ratzel emphasizes man, as he states (ANDRADE, 2008). Here, trails begin to appear that will show the important contributions of the Prussian geographer to a methodology in geography, whose subject is the core of this work, which we will deal with below.

Ratzel's choice of method is perfectly perceptible, in fact he (Ratzel) was one of those responsible for the introduction of the positivist method in the so-called “modern geography”. Every methodological contribution to geography coming from Ratzel is positivist. Although

² We emphasize that Ratzel was classified as the father of geographic determinism by the historian and disciple of Vidal de La Blache, Lucien Febvre. The weight of this meaning, as well as the connection of the works to Nazi expansionism, led Ratzel's work to a relative abandonment after World War II, returning to be valued from the 1980s onwards, with the publication of works by authors such as Mark Bassin and Marcos Bernardino de Carvalho, who brought deeper reflections on the author's writings.

he adopted this method, he later launched some important criticisms about it, for “non-progress” in search of a hologic or total vision. we will treat this term later. In general lines, his work is, all of it, guided by Ribas et al (2003, pp. 166-167):

[...] on positivist methodological and philosophical assumptions. His method was centered on induction: observation, description, comparison and classification, understanding anthro (geography) as a comparative science [...] Geographical science, in Ratzel's sense, is an empirical and synthetic science.

These methodological paths reveal concepts and themes that make up the set of Ratzel's work and serve us in the construction of the geography of the present, always with the concern, of course, about the necessary updates.

Darwinian naturalism influenced the zoologist Ratzel and had great consequences in the works of the Prussian geographer. Darwin and his theory of the evolution of species excited and inspired him in a large part of his methodological construction, revealing itself in his studies on spatial evolution and the State as an organism, as well as in his analyzes on the “stage” where man-environment relations developed. Other influences in this field of knowledge came from Ernst Haeckel and Moritz Wagner. In the twilight of his career, as analyzed by Martins (2001), when referring to a collection of texts written about the Prussian geographer, it seems to reveal:

a reflective Ratzel, at times inflamed, at times critical [...] stripped of academic rigidity, of concern for the systematization of geographical thought as a discipline, as in his main works - *Anthropogeographie* and *Politische Geographie* -, emerges, in the *Kleine Schriften*, a multifaceted Ratzel, politically engaged, involved with philosophical, artistic and religious issues. The articles range from the anatomy of the *Vermicular Enchytraeus* to considerations on the physiognomy of the Moon, glaciology, ethnography, history, colonialism in Africa, landscapes, panoramas, photography, biographical writings, political geography, cities, nationalities and races (MARTINS 2001, s.p).

One sees, therefore, the importance of the great contributions that Frederich Ratzel, in all phases of his life, brings to science as a whole and, in particular, to geographic science. This “multifaceted Ratzel” comes from his participation in the Leipzig Circle, where he also significantly deepened his philosophical knowledge and approached, as Martins (Ibid) points out, the work of Leibniz, from whom he received great influence in the “mature phase” of the their scientific production.

For the production of this work, we used a single methodological procedure, that of reading texts about Ratzel's works, as a premise for understanding its importance in the construct of geographic science. There are many written texts, but few, which lead us to a deeper analysis. We realize that delving into the theories and concepts elaborated by Frederich Ratzel is a herculean task, as a significant number of enlightening works are not available, as in other cases. This seems to be a striking feature when trying to understand some of the German authors.

Despite this context, we realize that there was some effort in the field of geographic production, so that we can understand, "in part," the great contributions that Ratzel bequeathed to modern geography. For this task, as a range of authors point out, it is necessary that we understand the context of their productions (Ratzel's), for a better understanding of his trajectory, in the struggle for a science that would become better every day, despite of the criticisms (and we agree with some), such as the fact that "its geography" is being assimilated and used by German imperialism.

This work is divided into an introduction that addresses, generally, and then specifically, geographic science and Ratzel's contributions; in a body (development) that deals with some thematic and conceptual assumptions that serve as a methodology for the geography of the present; and a conclusion where the authors expose their views about what was researched, but also, consistent with the above, the (in)conclusive analyzes about the methodological contributions that Ratzel bequeathed to geographic science.

2 THE METHODOLOGICAL PATHS

2.1 Ratzel's "not so deterministic" determinism

How can a geographer who "placed" man at the center of geographic studies be so strongly and for so long classified as a determinist? Wasn't there a certain neglect of those who so classified him, like Lucien Febvre, Ellen Churchill Semple and Elsworth Huntignton, regarding the scientific production of the period in which Ratzel built his ideas and theories, especially the work "Antropogeografia? Or were there other motivations?

In the context in which Ratzel writes his geographical works, Europe effervesces in conflicts. Among many, we highlight the Franco-Prussian War (1870-1871) which meant the French defeat, therefore, the end of the Second French Empire, the consolidation of German unification, with Otto Von Bismarck and, consequently, the formation of the German Empire.

Ratzel enlists in his country's army, participates in that conflict and, later, travels to the United States where he approaches geography, through a study on migrations of Asian peoples (studies on migration, diffusionism and extension). After this period in America, Ratzel was invited and returned to Germany for a chair at the University of Munich and, later, at Lipietz, continuing his productions on geographical science. According to Arcassa (2017) it is in this context that:

Ratzel's work is, from many points of view, inseparable from its context, starting with its intellectual environment. He is influenced by Humboldt and Ritter, as well as by his most direct masters, Oscar Peschel [...] and Ernst Haeckel [...], who contribute with their interpretations of the relationship between the territory and the State and, mainly, by Charles Darwin's theories applied to society, "social Darwinism" along the lines of Jean-Baptiste de Lamarck [...] and Herbert Spencer [...] (ARCASSA, 2017, p. 104).

Thus, his disciples or detractors seem not to consider this facet of the state of affairs that occurred in politics, economy and European society at that time. But in this assertion discussed above, it is seen how, despite his ideas having an insertion in this geopolitical and warlike march of conquest by the Germans, geographical science receives from Ratzel's intellectual effort other clues and other methodological perspectives, such as, for example, the political geography concept.

In Ratzel's works and in many of the authors who dedicated themselves to studying his trajectory, ideas favorable and contrary to the deterministic aspect imputed to him or how they classified him are evident. Gomes (1996) is one of those who present a thesis on determinism in Ratzel. This author uses the term "Ratzelian myth". According to this author (Ibid), citing Shchafer and Peet, determinism makes geography enter scientific modernity, or even, geography becomes a modern science, based on these ideas.

This set of polemics on the part of detractors and analyzes in the originals of Ratzel's works will imply, for years, a possible oblivion, as we have already emphasized, of his writings and theories and a resurgence of such ideas. Carvalho (1997) discusses this question, calling attention to the aggregated theories of the disciples and the primary sources of Ratzel, to say about the confusion and deviations of ideas about his theoretical construction. Regarding the disciples and their aggregated theories, Carvalho says (Ibid) that these mistakes are carried out, "even if for that they had to resort to expedients such as editing ideas, decontextualization, forging divergences, etc."

The true idea or statement about determinism or the deterministic method can be understood from:

in Ratzel, [...] the adaptation of man to the environment is understood from the perspective of the use of natural resources for the reproduction of material elements of culture, which completely changes the meaning of the interpretation. This author understood that the environment interferes in the development of a society insofar as it can offer better or worse access to resources, thus acting as a stimulus or an obstacle to progress. The laws that govern human history are products of a dynamic and permanent process of adaptation to the environment, and not a direct result of the action of natural factors, such as climate or relief, on men. (FILHO, 2009, p. 61-62).

This is one of the most important methodological paths present in Ratzel's legacy for geography, as it has a strong meaning and impact on current discussions of this science, as well as others. It is not the direct effect of the first nature on humans, but how they relate to a greater or lesser extent in the search for production and/or reproduction of goods necessary for life.

This discussion is on the agenda, especially after the advent of the notion that "technique" is an indispensable element in geographic analysis or a category of analysis of geography, as Silveira (2010) warns us. Thus, Ratzel points us to a base, despite the controversies and discussions about this methodological orientation, which even forged in the positivist context of his time, can be currently analyzed and adapted/updated and contribute to the formation of those who embark on the tortuous paths of the labyrinth geographical science, but also for the construction of works eminently geographical.

2.2 The hologetic or the totality? The Earth as an indivisible whole

Efforts undertaken by scholars concerned with issues related to the epistemology of geographic science have brought theories, concepts and methodological propositions formulated by classical geographers, who, despite the criticisms suffered, undertook notable efforts in the sense of systematizing geography and, thus, guaranteeing it the status of science, with its own object and theoretical-methodological body. In reality, more than a "discovery" of these ideas, there is an attempt to analyze them considering the philosophical and scientific influences in the formation of these authors and the historical context in which they lived.

In this sense, we highlight one of the most relevant methodological contributions by Ratzel, who, inserted in a scientific context marked by the fragmentation of knowledge and the search for a rigid delimitation of the discipline's study objects, dared to defend an integrated approach to natural and human phenomena, within the scope of Geography. This fact is considered ironic, since this author was considered the "father of Geographical Determinism".

This approach, Ratzel called "hologeic", which, to a certain extent, we can understand as being close to the concept of totality, much defended, a posteriori, by some philosophers, such as, for example, Martin Heidegger and by some geographers such as, for example, Milton Santos. With this, the author intended not only to enable a broader understanding of the relationships that were established between living organisms and the earth, but also to allow a rapprochement between the sciences.

However, the Prussian geographer's criticism of the fragmenting tendency of scientific knowledge cost him dearly, being, at the time and in later times, the target of various assessments, above all, by figures such as the sociologist Émile Durkheim and the historian Lucien Febvre, who advocated the separation of the social sciences from the particularity of their objects. Durkheim even accused Ratzel of trying to take over Geography, or more specifically his "Anthropogeography", a field of knowledge that, according to him, belonged to the so-called "Social Morphology".

Lucien Febvre, in turn, divided Geography at the time into two distinct schools: the possibilist, whose greatest representative was the Frenchman Vidal de La Blache, and, as we have analyzed previously, the determinist, created by Ratzel. Febvre was in favor of the first, as it contained a "clear, strict and selfishly geographical" definition of geography (CARVALHO, 2004, p. 96). However, opposing his ideas defended in the beginning of the 20th century, Febvre, in the second half of the century, brought a more open discourse to flexibility and disciplinary exchanges.

In a work on the approach of complexity in geography, Carvalho (2004) reveals Ratzel's contribution by bringing to the scope of geographic science a integrative analysis perspective. Taking the works "Antropogeographie", "Völkerkunde", "Politische geographie" and "Die Erde und das Leben", the author clarifies that in all of them the concern of the German scientist in "[...] to argue and demonstrate the existing connections between all

things present on Earth” (Ibid, p. 73). The connection or connectivity³, as we know, is one of the foundations of Geography, recurrent in Ratzel's works.

It is in “Antropogeografia”, one of the most relevant and well-known works among the academic productions of 19th century German geography, that Ratzel will expose many of the ideas that he will focus on throughout his career. The connection between organisms is highlighted right in the introduction of the book from the presentation of the concept of “Earth complex,” which according to Carvalho (2008, p. 74):

[...] is a set of techniques and tools that allow communities to make their own diagnosis and from there begin to self-manage their planning and development. In this way, participants will be able to share experiences and analyze their knowledge in order to improve their planning and action possibilities. The main objective of the DRP is to support the self-determination of the community through participation and, thus, promote sustainable development (BRASIL, 2006).

For the DRP, workshops were used with local actors and technicians. According to Buarque (2008, p. 55), “workshops constitute a valuable method of structured consultation with society, organizing collective construction in the perception of reality and definition of priorities”. These workshops aim to identify, through the perception of technicians and social subjects, the potentialities and problems in family farming, and to mobilize institutions operating in the rural area so that they are integrated into the study proposal, showing the importance and viability to carry out research aimed at the sustainability of rural families, so that it is not limited to productive aspects.

The work has characteristics of intervention research, since, according to Flick (2004), it must take place within the researched context, contributing to the solution of problems, and it happens when the researched person acts as a mediator who articulates, organizes meetings, systematizes voices and knowledge produced by the research subjects, acting in an active listening process. Still according to the author, from the moment the researcher enters the context where the study takes place, his questions and proposals already constitute an intervention.

³ Principle of connectedness or interaction presented by Jean Brunhes (1869-1930). That is, a geographic phenomenon never happens in isolation. It will always be linked (connected) with other disciplines of human knowledge. It is the geographical analysis that starts from the relationship between certain areas and specific historical moments.

The DRP was organized and systematized according to the FOFA matrix. This matrix is a management tool widely used in the business strategic planning process and which is likewise used for the territorial strategic planning process, making the necessary methodological adaptations. According to Buarque (2008, p. 133),

[...] is based on the idea of the existence of connections between systems or organisms of the most diverse types. Such connections cannot be understood, nor can they be verified, without considering the spatial component. Hence, Ratzel considers the need to add a geographical reference to studies on the diffusion of life on the planet, and thus compose a general science, which has already existed for some time, biogeography, but which, strictly speaking, is only based on or complete, as a reference of totality, with the institution of one of its "branches": anthropogeography.

The influence of Haeckel's Ecology can be seen in Ratzel's thinking, especially in his "organic Earth" (or biogeographic) conception, a term that conceives all the elements of the planet, organic and inorganic, as an inseparable whole, united with history through mutual and continuous actions. Therefore, Capel (1981, p. 283) states that for Ratzel, "Geography is above all an ecology". However, unlike Haeckel's Ecology, whose focus was on the study of the complex interrelationships established between living organisms and the environment (organic and inorganic) and themselves, the Prussian author sought to understand human dynamics in relation to the environment, nature, but attributing to them a greater degree of freedom and dominion in relation to the dynamics of nature, however, without ignoring the terrestrial unit.

This way of conceiving the relationship between man and the environment was, in Ratzel's conception, fundamental to understanding the evolution of the planetary physiognomy (CARVALHO, 2004, p. 75). Thus, the author was going against the grain of the scientific discourse formulated centuries ago, which placed its dissociation from the earth as a condition for understanding organic life. As can be seen, he always reinforces the need to consider and think about the whole, which is the essence of hologeics and the starting point of any investigative practice.

Still in the hologeic perspective, Ratzel highlights the relevance of understanding the so-called "telluric unit of life". In Carvalho's interpretation (Ibid, p. 85), this would imply perceiving the connections established between the "three kingdoms of the living being", but also between them and inorganic nature, since for Ratzel, all the elements of the Earth would be strongly connected and linked, so that "[...] only the richness of developments

singularities can sometimes lead us to overlook the fact that this mutual dependence embraces, at the same time, the substance and the force, the internal and the external, the stone and the life". (RATZEL, 1907 apud CARVALHO, 2004, p. 85).

It is interesting to highlight the role of man in Ratzel's work, always understood from its link with the Earth and men themselves. This conception, as will be seen later, is evident when the author highlights the intimate relationship maintained by society with the soil, which is fundamental for its development. Ratzel proclaims the importance of the "unitary perception of humanity" considering that there are common processes and characteristics among men, such as "reason, religion, language, instruments of civilization..." (CARVALHO, 2004, p. 85).

Attentive to the growing sophistication of the relationships that societies were establishing with the physical environment, Ratzel defended the need to conceive new ways of apprehending and understanding these interactions, which would necessarily go through overcoming isolated, restrictive and specialized approaches. It is understood, then, that this would imply a new scientific practice, based on cooperation between the disciplines focused on the study of the dynamics of the Earth and men.

Obviously, when defending this idea, Ratzel had in mind to reinforce the importance of the hologetic view for geography, which would differentiate it from other sciences by allowing a broader understanding of phenomena also studied by them. On the other hand, it would be an alternative to the excessive fragmentation that was verified in the scientific field, therefore, geography could benefit by ensuring its internal cohesion.

It is worth highlighting that the re-reading of the works of the Prussian geographer, in addition to rescuing his hologetic approach, revealed criticisms made by him to the positivist method and geography itself, despite having lived in a historical moment in which the scientific validity of the disciplines depended on the its use. These criticisms are well summarized by Cazarotto (2006, p. 6):

Until recently, the version of Ratzel's thought was that of a geographer with positivist principles and a proponent of descriptive geography. However, in more recent versions, his criticism of positivism can be seen, especially pointing out the consequences of his rigidity in not admitting deviations in linearity and in approaches to the evolution of knowledge. He said that the history of science, (referring to the case of Anthropogeography), should not share the same chronological scheme as the sciences in general. He also saw the limits of descriptive science. He understood that description was fundamental, but not enough without analysis.

It is interesting to note that already at that time, the author posed the need to go beyond description, a usual procedure among so-called “traditional” geographers and to advance in terms of analysis, as was later defended by critics of Traditional Geography, in which he inserted himself.

2.3 The modern state and geopolitics: the notion of territory

Among Ratzel's great contributions to geography are his reflections on geopolitical⁴ issues. and political geography, which were widely developed in his great work “Politische Geographie”, released in 1897. It is important to remember that Ratzel's ideas around political (and geopolitical) issues were so distorted that many associate them to this day to the German expansionist project carried out by the Nazi party during World War II.

Ratzel, as we know, did not experience the rise of Nazism in Germany, but the process of unification of the German national State at the end of the 19th century, a fact that had important repercussions on his observations about the relationship between State, Society and Territory. In any case, misinterpretations – or intentionally forged by their critics – led to the ostracism of geopolitics and Ratzelian political geography for several decades, being resumed more recently.

Despite the questions made to Ratzel's geopolitical formulations and political geography, one cannot deny their influence on many scholars who have dedicated themselves to the study of relations between State and territory - even among those who have advanced in such studies, based on his criticisms. to Ratzel's thought, like the French geographer, Camille Vallaux. Thus, it is worth making some considerations about the ideas of the Prussian author regarding these two themes.

The influence of Ecology in Ratzel's formation is notorious in “Politische Geographie”, especially when he conceives the State as an organism – term taken from Biogeography -, but not in the strictly biological sense, on the contrary, the author opposed the organic conception of the State that considers only the economic dimension in land appropriation, ignoring the political dimension underlying this action (CARVALHO, 2004) .

⁴ Although the foundations of geopolitics were laid by some theorists, such as Mahan and Haushofer, and geographers, such as Ratzel and Mckinder, it was only after the publication of the article “The Great Powers” by the Swedish jurist Kudolf Kjellén, in 1905, that this branch of geography was named Geopolitics (ALBUQUERQUE, 2011, p. 15)

In other words, it is essential to consider the interaction between the geographic, economic and political elements that result in the construction of the State. Conceived as a form of life, it would present the tendency to behave (by analogy) according to the laws that guide living beings on the planet, that is, “[...] to be born, to advance, to retreat, to establish relationships, to decline, etc.” (COSTA, 2008, p. 35). However, if in Biogeography the soil was a conditioning factor for the actions of living beings, this same relationship cannot be established in the case of the State.

The State would be born, according to Ratzel, from the internal cohesion of a people united not only by family, cultural, linguistic ties, etc. – characteristics more present in traditional societies, marked by the division into families and clans –, but mainly by the common interest in the defense of the territory, since their struggle would be guided by the desire to protect it and ensure its integrity. In this sense, Costa (2008) explains that the Prussian geographer defends the need to implement territorial policies, that is, aimed at guaranteeing the domain of the national space and not necessarily the conquest of new spaces, alongside general policies, which take the territory as a given space on which they will develop, like economic and cultural policies, among others. In this perspective, He differentiates "achievement" from “colonization”, since the latter presupposes a process of “territorial valorization”, that is, of economic integration, politics and establishment of borders (Ibid, 2008, p. 37-38).

In one of the few articles translated into Portuguese⁵, Ratzel brings notes interesting facts about the relationship between soil, society and the State. First, the author is categorical in declaring that “the State cannot exist without a soil”. Ratifying this assertion, he further states that the existence of a social group, “such as the tribe, the family, the community”, as well as its development are only possible “on a soil” and, only in relation to it, is that this development can be understood. (RATZEL, 1983, p. 93). In this way, the people and the soil would be linked in such a way that the loss of territory would be the harbinger of the decline of a people.

However, Costa warns us (2008, p.35), the soil does not determine the development of the State, in fact, the use of it and its resources depends mainly on the transformation capacity of the nation or the people settled in it, than on the physical conditions of the space.

⁵ This is the translation of the article “Le Sol, la Société et l'État” published between 1898 and 1899, in *L'Année Sociologique*, made by Mário Antônio Eufrásio and published in the *Revista de Geografia da Universidade de São Paulo - USP*, in 08 Nov. 1993.

Admitting the intimate link between the State and the territory, Ratzel formulated the concept of "living space"⁶, paying attention to the need for the State to ensure control of the land in order to guarantee the survival of the people themselves, bearing in mind their technological apparatus, the size of the population and the existing natural resources. Thus, the vital space would derive from the balanced relationship between the population and the existing resources, mediated by the technique (MORAES, 1990, p. 23 apud ARAÚJO, 2016, p. 99).

We emphasize that the discussion about the living space also involved a concern with the limits of its borders, because they are not only landmarks that delimit the space, but constitute places of contact of different groups, therefore, the occurrence of conflicts is a possible reality .

It is worth remembering that defending the integrity of the soil in the face of external interventions is a task of the State, and for this purpose not only the defense of borders, but also trade – including with other peoples – and the use of all existing resources in the soil. And it will be all the more necessary, the greater the territorial growth of the State (RATZEL, 1983, p. 96).

Ratzel (Ibid) states that the way society relates to the soil influences directly on the nature of the State, whatever the phase of evolution in which it finds itself. Despite the territorial extension being important to measure the power of a State, other aspects are also relevant, such as the size of the population, the nature of the relationships it sustains with the soil and the stability of the political institution. In addition, the way in which it is divided interferes with the internal constitution of the State, with society being more homogeneous and tending towards democracy in situations in which the division is more egalitarian and vice versa.

An innovative point of Ratzel's thought, in studies of political geography, is the emphasis attributed, in addition to economic and political factors, to the spatial factor in explanations about the relations between the State and its territory, with the existence of the former linked to ownership of the latter, as well as its borders. To guarantee territorial domination, the State would use, mainly, a bellicose apparatus, achieved through advances in technology.

Considering this primacy of the spatial factor, Ratzel recognizes the importance undeniable importance of the soil in politics, as it conditions the organization of society, in

⁶ According to Capel (1981), the concept of vital space is central to Ratzel's geopolitical approach and shows the Darwinian influence and Haeckel's Ecology in the author's thinking.

addition to the physical knowledge of the territory, its potentialities and obstacles, leads to political history. Thus, "History shows us, in a much more penetrating way than the historian, to what extent the soil is the real basis of politics. A truly practical policy always has a starting point in geography" (Ibid 1983, p. 99). For this reason, the author defends the dialogue between political science, history and geography in the treatment of issues related to the political dimension and the State.

Not losing sight of the hologic approach and the telluric unity of life, the author is contrary to analyzes that mechanically associate natural and social dynamics, generally subjugating the latter to the former, or at the other extreme, privileging only order determinations political and economic.

Another aspect, which is worth highlighting, is the use of the terms "soil" and "territory" in Ratzel's work, which seem to be confused, as if they were synonyms, when in fact they are not. Souza (2011) clarifies that in Ratzel's thinking, the territoriality of the Nation-State is treated in a "naturalized" way, even though it is permeated by "history, tradition and ideology". In the meantime, the ideologies that permeate the various component classes of a society are masked by an alleged feeling of "love for the country", the existence of a "national culture", etc., and the recognition of "The people" takes place in relation to "their" state. Nevertheless, Ratzel usually uses the term "soil" (Boden) instead of territory (or Territorium), as he always understands the territory as belonging to a State, "[...] as if this territory were something empty without reference to material attributes, including or above all, natural (data by site and position) which are in fact more directly designated by the expression Boden" (Ibid, 2011, p. 86).

Ratzel also elaborated interesting reflections on the phenomenon of mobility in the territory, despite having been criticized by the French in this respect. The author analyzes mobility according to two different types of migration, as Costa (2008, p. 39) points out, the "true" and "border migrations", the first being more common to primitive societies, and the second to state organisms more consolidated, with rigidly defined borders. Border mobility would result in war, as it would imply advancing into the territory of another state. In this context, the establishment of communication networks would be fundamental, as it would serve, above all, to articulate the different parts of the territory, according to the possible risks of them suffering external invasions.

Considering Ratzel's concern with issues related to the unification of the State, in particular, of Germany, Costa (2008) explains that the Prussian geographer paid attention

to the need for policies and territory management to consider the process of political differentiation of the state-territorial organism, usually caused by dissociation processes. This would lead to the internal fragmentation of state-territorial bodies, causing “[...] a differentiated political valuation of territorial portions” (IBID, 2008, p. 40). Therefore, the State would need to act to promote a constant re-articulation of these parts, through the adequate distribution of means of circulation and defense elements. Therefore, extension was not as relevant as “the articulation and cohesion of the political space, or state-territorial organism”. (IBID, 2008, p. 40).

2.4 Extension: geographic principle, Ratzelian foundation

Would the principle of extension have been a Darwinian influence on Ratzel's Geographer work? There seems to be no doubt, as the aforementioned principle sees space, territory or region as an organic complex that needs to expand, bearing in mind that from the theory of the evolution of space⁷, Ratzel is convinced that before any task concerning the understanding of the territory, it is necessary to quantify it cartographically, to delimit it, in order to use it from there. Thus, Castro, Soares and Quaresma (2015, p. 44), helps us when he translates “the principle of extension (Ratzel), according to which the study of a geographical fact must proceed to its location and delimitation”.

Would modern and current human geography be poor in terms of the principle of extension? In the “advance” it suffered in the 20th century, would radical geography have neglected this principle? Would it still be the principle of extension, a specific study of geography that is called “physics”?

It seems to us that the understanding of the context and the contributions bequeathed by Ratzel were not and/or neglected only by his disciples. The extension is the cartography of the geographic object and its unfolding in concepts. It serves the territory, the region, the place and the landscape. But for what time? Would it still work today? And what geography?

In a beautiful text entitled, “The geographic space: from the geometric perspective to the existential perspective”, Silveira (2006) makes an excellent analysis of what seems to us to be a dispute between “extension” and the “existence”, or would it be a dispute between classical geography and contemporary geography? The answer is a no. Despite all the effort

⁷ Ratzel brings the Darwinian idea of the evolution of species to geography and applies it as “spatial evolution”.

on the part of some authors, as is the case of Moraes (2003) in “Geography: small critical history”. Geographical science is not, or should not be, an arena where the “split parts” fight: the physical and the human; the traditional and the critical-radical; the past and the present. We see this in a clear way in the aforementioned text by Silveira (2006), when the author actually updates what Ratzel bequeathed to geographic science as a principle.

The extension is not a given thing, it is historically produced; there is a historical and logical process that results in extension. But we could account for the extension in different ways, for example, thinking about the determining variables of the period. We can, from here on, concern ourselves mainly with the space of networks. In other words, we look at the historically produced extension and try to discover this logic and history of production from the determining variables (SILVEIRA 2006, pp. 89-90).

It seems impossible to completely delete or despise, from geographic science, the aforementioned principle, which is among the great contributions bequeathed by the Prussian geographer. Geographical science is not just about successions and currents that overlap other and previous ones, but in a coexistence of thoughts, theories and temporalities that are updated to analyze the “new”. Here is another methodological legacy left by Ratzel. We perceive, therefore, that extension, as a principle, does not disappear, on the contrary, it requires updates and still needs to be at the center of debates about the geographic episteme.

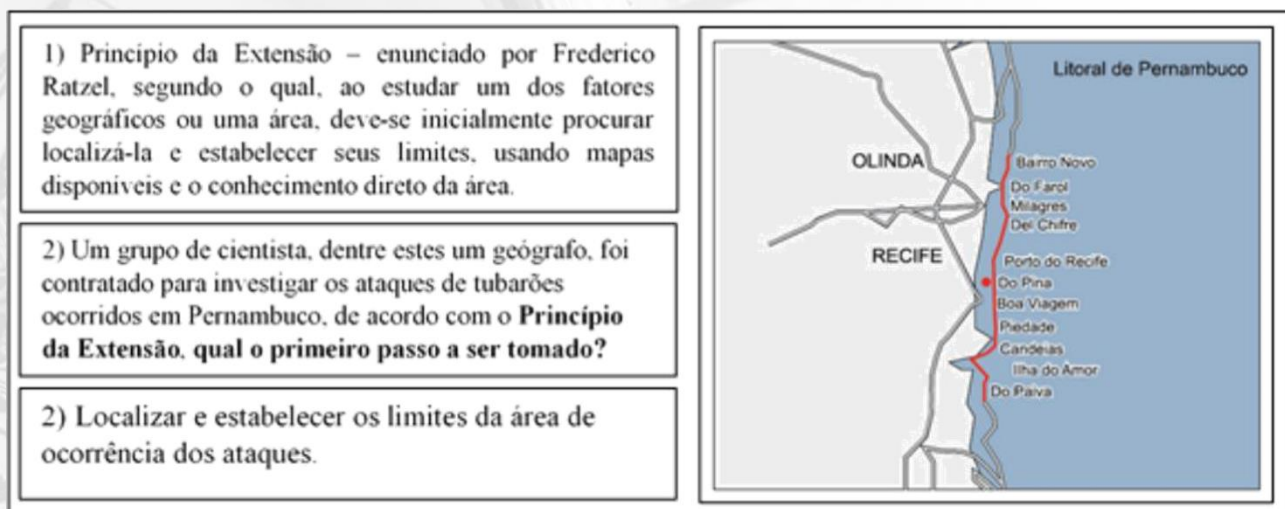
We could still refer to one more concept that seems to us to be an update of the idea of extension and that has been presented in a more complex way and also seems to originate from the “Ratzelian” foundation. We are talking about what Silveira (1999) calls geographic situation. Of course, they are not presented as synonyms, but as correlated and complementary. The author herself in this text, entitled: A geographical situation: from method to methodology, leaves the following question in suspense: “Can a situation really be defined as a set of events, a system of events? Is it the reflection on space of what traditional geography considers as “scales”? [...] The question remains open” (SILVEIRA, 1999, p. 25).

Ratzel and the principle of extension are not even mentioned in the text quoted above, but our analysis is that, it is clear, the relationship that we bring to the fore. The geographic situation is a perfected concept, a requirement of the current period, which has an intense connection with the idea of extension, despite advancing in its complexity. Thus, Ratzel

continues to contribute decisively to methodology in geography, even if his ideas still continue to generate distrust for a number of authors.

Finally, it is also necessary to place the importance of this principle for the works developed in the present geographical science in all areas, although we see it with greater presence in the works of the so-called “physical geography”, a term which we abandon, but we recognize is in the context of duality, as pointed out by Gomes (1996), planted within of geographic science. Let's see how important the principle of extension is in an example that we "cut" from a work carried out by teachers from the Department of Education of the State of Pernambuco (see figure 01).

Figure 01 - Contextualized demonstration of Ratzel's Extension Principle



Source: SEE-PE, redesigned from an image by Unknown Author. Organized by authors (2019).

Given what's above, the importance of cartography, scale, limits and understanding phenomena from these elements, as we can see, do not serve only this or that geography. Evidently, the techniques of how to do, some concepts already discussed, in this work, had in recent times and, in particular, in the current period, advances and strong inks of complexification, but in vogue, is still the principle, the pioneering spirit of the Prussian geographer, Frederick Ratzel.

3 FINAL CONSIDERATIONS

At the end of the day and after analyzing several works, as in a hermeneutic effort about the production elaborated by Ratzel, mining all that information that highlights the

contributions of the geographer, on screen, to the methodology in geography, we highlight the importance of, in addition to of simplistic analyzes and successions, we see the coexistence and updates of theories, themes and concepts that are basic to geographic science.

From classical positivism to the humanization of modern geography, Ratzel produced an important foundation for the advances that would come a posteriori in the construction of this science as it is today. Territory, politics (geopolitics), vital space, hologeics, among others, make up the Ratzelian theoretical edifice that bequeathed to geography and contemporary geographers unavoidable methodological paths when analyzing space and the totality.

Among his great contributions, we highlight the hologeic approach which, in our analysis, remains very current and necessary in the field of geographic studies, firstly because it would be a way of breaking with the much-discussed duality between Human Geography and Physical Geography, which considerably limits the production of knowledge in the field of science, as well as the ability of geographers to understand the phenomena manifested in space.

On the other hand, the dialogue with other sciences, proclaimed by Ratzel, is also fruitful and promising, because in the face of the growing complexity and totality that is the world, geography alone cannot provide satisfactory answers to the problems that arise in society and whose solutions in many cases are not given completely by a single science. There would then be an approximation of Geography with the theory of Complexity, along the lines proposed by philosophers such as Edgar Morin and with the ideas of totality, so well analyzed by the geographer Milton Santos.

The emphasis on Man in geographic studies, as it appears in Ratzel's production, is also a fundamental aspect for contemporary geography, especially in the context of so-called "physical geography". Without man, space as we conceive it does not exist. Therefore, every study that intends to be geographic needs to consider it, both in its relationship with the natural environment and with society. Incidentally, it is worrying the disregard of the influence of natural elements on human action by many geographers who deal with issues traditionally addressed by the human geography.

Unfortunately, the criticism leveled at classical geographers, whose studies focused on the relationship between man and the environment, seem to have relegated to nature a

much lower role in geographic analyses, precisely as a way of opposing or showing itself to be superior to the geography produced in that period.

In conceptual terms, Ratzel advanced a lot in understanding the territory (which in his work appears associated with the idea of soil), taking it as a constituent element of the State and recognizing its importance in the structuring and functioning of political power, as well as in the organization of society. Therefore, his propositions are still visible in political and geopolitical studies, of course with due updates and considerations. It is not about minimizing the condition of determinism placed by the geographer on the screen, nor, now, seeing him sharing the possibilist ideas, but I gave him, Ratzel, a defense of a determinism that, in fact, exists, but not as such. total dependence on the first nature.

In conclusion, it can be said that Ratzel's contributions to geographic science far outweigh the criticisms directed at his works – however, we do not deny the validity of some of these criticisms, as there are mistakes and contradictions worthy of contestations and revisions. in his productions – But the rescue and careful analysis, carried out with the necessary scientific rigor, has been revealing other facets of Ratzel's thought ignored or little understood by critics and that help us to understand the very essence of geographic knowledge.

REFERENCES

ARAÚJO, K. de F. "Geografia Política de Friedrich Ratzel: o espaço vital e a elaboração do estado" In: **VI Encontro Nacional da Anpege**, 2005, Fortaleza. Anais de resumo. Fortaleza: Expressão Gráfica, 2005. p. 120-121.

ARCASSA, W. de S. Friedrich Ratzel: a importância de um clássico. **Geographia Opportuno Tempore**, Londrina, v. 3, n. 1, p. 98-115, 2017. Available at: <<http://www.uel.br/revistas/uel/index.php/Geographia/issue/view/1396>>. Accessed on: 12 dec. 2019.

ALBUQUERQUE, E. S. de. **Uma breve história da Geopolítica**. Rio de Janeiro: CENEGRI – Centro de Estudos em Geopolítica e Relações internacionais, 2011. 98p.

CAPEL, H. "El Positivismo y la Geografía". In: CAPEL, Horácio. **Filosofía y Ciencia em la Geografía Contemporánea**. Barcelona: Barcanova, 1981. p. 267-311.

CAPEL, H. Sociedades Geográficas, Geografía e Imperialismo. In: CAPEL, H. **Filosofía y Ciencia em la Geografía Contemporánea**. Barcelona: Barcanova, 1981. p. 173-206.

CARVALHO, M. B. de. Diálogos entre as Ciências Sociais: um legado intelectual de

Friedrich Ratzel (1844-1904). **Biblio 3w**: revista bibliográfica de geografia y ciencias sociales, Barcelona, v. 2, 1997. Available at: <<https://revistes.ub.edu/index.php/b3w/article/view/25019/26132>>. Accessed on: 13 jun. 2019.

CARVALHO, M. B. de. Geografia e complexidade. In: DANTAS DA SILVA, Aldo;

GALENO, Alex (Orgs.). **Geografia**: ciência do complexus: ensaios transdisciplinares. Porto Alegre: Sulina, 2004. p. 67-125.

CASTRO, C. J. N.; SOARES, D. A. S.; QUARESMA, M. J. N. Cartografia e ensino de geografia: o uso de mapas temáticos e o processo de ensino-aprendizagem na educação básica. **Boletim amazônico de geografia**, Belém (PA), v. 2, n. 3, p. 41-57, jan/jun. 2015. Available at: <<https://www.researchgate.net/publication/291423507>>. Accessed on: 15 sep. 2019.

CAZAROTTO, R. T. Leituras de Friedrich Ratzel na produção geográfica brasileira contemporânea. **Boletim gaúcho de geografia**, Porto Alegre, v. 30, n. 1, p. 94-100, oct. 2006. Available at: <<https://seer.ufrgs.br/bgg/article/view/37486/24232>>. Accessed on: 20 nov. 2019.

COSTA, W. M. da C. **Política e geopolítica**: discursos sobre o território e o poder. 2. ed. São Paulo: Editora da Universidade de São Paulo, 2008.

FILHO, L. L. D. **Fundamentos epistemológicos da geografia**. 1. ed. Curitiba: IBPEX, 2009 (Metodologia do Ensino de História e Geografia, 6), p. 61-62.

GOMES, P. C. da C. **Geografia e modernidade**. Rio de Janeiro: Bertrand Brasil, 1996.

HETTNER, A. O sistema das ciências e o lugar da Geografia. **Revista Geographia**, Niterói, v. 2, n. 3, p. 143-146, 2000. Available at: <<https://periodicos.uff.br/geographia/article/view/13380/8580>>. Accessed on: 20 jun. 2019

MARTINS, L. de L. Friedrich Ratzel hoje: a alteridade de uma geografia. **Revista Brasileira de Geografia**, Rio de Janeiro, v. 54, n. 3, p. 105-113, jul/sep. 1992. Available at: <https://biblioteca.ibge.gov.br/visualizacao/periodicos/115/rbg_1992_v54_n3.pdf>. Accessed on: 03 dec. 2019.

MARTINS, L. de L. Friedrich Ratzel. **Revista Geographia**, Niterói. v.3, n.5, p.89-91, 2001. Available at: <<https://periodicos.uff.br/geographia/issue/view/822>>. Accessed on: 22 oct. 2019.

MENDOZA, J. G.; JIMÉNEZ, J. M.; CANTERO, N. O. **El pensamiento geográfico**. Alianza Editorial: Madrid, 2002.

MORAES, A. C. R. **A gênese da geografia moderna**. São Paulo: Hucitec, 1987.

MORAES, A. C. R. **Geografia**: pequena história crítica. São Paulo: Annablume, 2003.

RATZEL, F. O solo, a sociedade e o estado. **Revista do Departamento de Geografia**, São Paulo, v. 2, p. 93-101, 1983. Disponível em: <<http://www.revistas.usp.br/rdg/article/view/47081>>. Acesso em 20 nov. 2019.

RIBAS, A.; SPOSITO, E. S.; CANDIOTTO, M. A. S.; SANTOS, R. A. dos. Considerações sobre a geografia e o conceito de território em Friedrich Ratzel. **Revista Faz Ciência**, Francisco Beltrão, v. 5, n. 1, p. 159-174, 2003. Available at: <<http://e-revista.unioeste.br/index.php/fazciencia/article/view/7688>>. Accessed on: 12 dec. 2019.

SILVEIRA, M. L. Espaço geográfico e fenômeno técnico: por um debate substantivo. In: BOMFIM, P. R. A.; SOUSA NETO, M. F. (Orgs.). **Geografia e Pensamento Geográfico no Brasil**. São Paulo: Annablume, 2010. p. 123-139.

SILVEIRA, M. L. O espaço geográfico: da perspectiva geométrica à perspectiva existencial. **GEOUSP Espaço e Tempo (Online)**, São Paulo, [S. l.], v. 10, n. 2, p. 81-91, 2006. Available at: <<https://www.revistas.usp.br/geousp/article/view/73991>>. Accessed on: 12 dec. 2019.

SILVEIRA, M. L. Uma situação geográfica: do método à metodologia. **Revista território**, Rio de Janeiro, v. 6, n. 6, p. 21-28, 1999. Disponível em: <http://www.laget.eco.br/index.php?option=com_wrapper&view=wrapper&Itemid=6>. Accessed on: 28 nov. 2019.

SOUZA, M. J. L. de. O território: sobre espaço e poder, autonomia e desenvolvimento. In: CASTRO, I. E.; GOMES, P. C. da C.; CORRÊA, R. L. **Geografia: conceitos e temas**. 14. ed. Rio de Janeiro: Bertrand Brasil, 2011. p. 77-113.

SOUZA, M. D. de. A Filosofia na antropogeografia de Friedrich Ratzel. **Caderno de geografia**, Belo Horizonte, v. 24, n. 2, p. 155-168, 2014. Available at: <<http://periodicos.pucminas.br/index.php/geografia/article/view/6466>>. Accessed on: 09 dec. 2019
