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Tourism and Geotourism: A Conceptual Problem

Turismo e Geoturismo: Uma Problemática Conceitual

ANA CATARINA ALVES COUTINHO¹, DÉBORA GOES URANO², ALBERTO JOSE MATE³, MARCOS ANTÔNIO LEITE DO NASCIMENTO⁴

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ABSTRACT⁵

Researchers from areas such as geology and geography have dedicated to the study of geotourism. They often base their debates on geological and geomorphological aspects, ignoring the epistemology of tourism. Aware of the debate plurality, this paper aims to propose an epistemological debate on the concept of geotourism according to the theoretical perspectives of tourism. To this end, we used bibliographic research to unveil the historical aspects and the current state of tourism and geotourism. Geotourism has emerged as an effort by geologists to impart knowledge about the earth sciences that was difficult for the lay public to access and the need to incorporate it into tourism due to the multiplier effects. However, the main results of this evidence show that the origins of Geotourism can only be understood in the light of modern tourism, especially with the massification of tourism in a post-industrial society, and the appearance of alternative forms of mass tourism and its numerous fragmentations.

KEYWORDS

Tourism. Geotourism. Geohistory.

¹ **Ana Catarina Alves Coutinho** – M.Sc. in Tourism. Ph.D. student at the Graduate Program in Tourism of the Federal University of Rio Grande do Norte. Lecturer at the Federal University of Maranhão, São Bernardo Campus, Maranhão, Brazil. Curriculum: <http://lattes.cnpq.br/8424702006807233> Email: coutinho.catarina1@gmail.com

² **Débora Goes Urano** – M.Sc. in Tourism. Ph.D. student at the Graduate Program in Tourism of the Federal University of Rio Grande do Norte, Natal, Brazil. Curriculum: <http://lattes.cnpq.br/4108291017374423> Email: deboragurano@gmail.com

³ **Alberto José Mate** – M.Sc. in Languages, Literatures, and Cultures. Ph.D. student at the Graduate Program in Tourism of the Federal University of Rio Grande do Norte, Natal, Brazil. Assistant Lecturer at Pedagogical University, Mozambique. Curriculum: <http://lattes.cnpq.br/1524833681088638>. Email: albertoimarthe@gmail.com

⁴ **Marcos Antônio Leite do Nascimento** – Ph.D. in Geodynamics and Geophysics. Professor in the Department of Geology of Federal University of Rio Grande do Norte, Natal, Brazil. Professor in the Graduate Program in Tourism of the Federal University of Rio Grande do Norte. Curriculum: <http://lattes.cnpq.br/5356037408083015> Email: marcos@geologia.ufrn.br

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RESUMO

Pesquisadores de áreas como geologia e geografia têm se dedicado ao estudo do geoturismo e frequentemente ancoram os seus debates nos aspectos geológicos e geomorfológicos, ignorando a epistemologia do turismo. Ciente da pluralidade do debate, este trabalho tem como objetivo central propor um debate epistemológico sobre o conceito de geoturismo à luz das perspectivas teóricas do turismo. Para tal, recorreu-se à pesquisa bibliográfica para desvelar os aspectos históricos e o ponto de situação atual do turismo e do geoturismo. Apesar de o geoturismo ter surgido como esforço dos geólogos para transmitir o conhecimento sobre as ciências da terra que era de difícil acesso para o público leigo e a necessidade de sua incorporação no turismo devido aos efeitos multiplicadores, os principais resultados deste evidenciam que as origens do geoturismo só podem ser compreendidas à luz do turismo moderno, especialmente com a massificação da atividade turística na sociedade pós-industrial e o surgimento de formas alternativas ao turismo de massa e suas inúmeras segmentações.

PALAVRAS-CHAVE

Turismo. Geoturismo. Geohistória.

INTRODUCTION

The natural resources of the planet Earth identified as minerals, rocky outcrops, fossils, reliefs, soils, among others, have been of paramount importance to geosciences that seek to tell the history of the planet and understand the use of these resources. The plurality of values associated with geodiversity has aroused the interest of experts from other fields of knowledge, including tourism. Gray (2004) highlights as geodiversity values: intrinsic, cultural, aesthetic, economic, functional, research, and education. It is essential to underline that there is no hermetic boundary between the various values of geodiversity, as some of them may overlap or even conflict. For this work, it matters highlighting the combination of these values as a preponderant factor for the conceptualization of geotourism. While on the one hand, it was the scientific discoveries that led Earth scientists to promote actions for the conservation of geodiversity, on the other hand, one cannot deny that the success of this endeavor would only gain momentum by associating to other values such as cultural and aesthetic, for example.

Thus, it appears that as geosciences advanced with the production of knowledge over geological elements, activities of economic exploration that contributed to the enhancement or degradation of some geological sites took place in parallel. Tourism was one of those phenomena that appropriated the aesthetic and cultural values of geodiversity to develop the regions economically, and gradually introduced the idea of sustainable use of these resources. This scenario guided the first debates about geotourism, as they sought to insert geological elements into tourism activity, aiming at the propagation of geological knowledge and to sustainably develop the regions where these elements occur (Pereira, 2017). Currently, the interest in geotourism stands out for the strategies of promotion of tourism, with the construction of trails whose main attraction is areas

with geological features, highlighting the unique geomorphological aspects and sports activities practiced there. At the same time, the debate around geotourism has been growing, for, since Hose (1995) defined the concept, several researchers have dedicated their studies to the theme. Educational meetings and academic articles have fulfilled the role of discussing and propagating geotourism.

The practice that constitutes modern geotourism may be old, but its conceptualization is recent. However, we can note that the debate lacks an epistemological framework of Tourism, as the leading theorists are trained in other areas of knowledge, especially in Geology and Geography, which sometimes incipiently explore the founding concepts of Tourism. Thus, it is the central objective of this paper to discuss the concept of geotourism in the light of the theoretical perspectives of tourism. That requires a path of the historical antecedents of geotourism and tourism, followed by a theoretical discussion about the main characteristics of the former, summoning the authors and fundamental concepts of the latter. The study has an exploratory theoretical nature based on bibliographic research carried out in books and publications that deal with the theme of Tourism and Geotourism. Regarding the treatment of the object, it is called qualitative research (Richardson, 2008).

GEOTOURISM AND TOURISM: HISTORICAL BACKGROUND

The understanding of the practical nature of geotourism and its scientific developments undergoes an understanding of the historical evolution of the tourism phenomenon. Tourism, like many other human phenomena, is structured and transformed following social changes. In this sense, it is directly influenced by economic, social, environmental, and cultural events and movements that shape society over time. Within this spectrum, Thomas Hose (2000; 2012; 2016) presents a consistent work in what he calls geohistory, that is, a historical narrative of the main discoveries, events, works, and characters of Geology, contextualized with economic, social, environmental, and cultural aspects. Through geohistory, the author aims to point out events and movements that influenced the practice of tourism and, consequently, modern geotourism. For Hose (2016), geotourism, as it is known today, had its antecedents in the 17th century, when some elite travelers recorded their travel experiences, landscapes, natural aspects, quarries, and mines.

It is noteworthy, however, that traveling, in its most varied forms, had existed since antiquity, but was intensified, both in its practice and its reports, stemming from the great navigations and its narratives about the discovery of new trade routes, among them, those for the New World (Figueiredo & Ruschmann, 2004). In the 17th and 18th centuries, the Grand Tour, as the trips made by the English elite for cultural and social maturation were called, was an exponent of that moment. Hose (2016) cites the book *The Grand Tour*, written by Thomas Nugent in 1749, in which the author recounts his travel experiences with young people of noble families from England, made in countries such as Italy, France, and the Netherlands. In the reports, besides describing the moral values

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associated with the learning that young people would have during their travels, it is possible to find impressions and information about culture, society, housing, as well as topographic, geomorphological and geological aspects of various countries visited, among others about the soil, the climate, the seas, the rivers, the mountains, and volcanic eruptions.

In the 18th century, parallel to the autonomy of scientific values, there was the emergence of naturalistic movements and associations in Europe. Assunção (2017) refers to the importance of the great expeditions that drove the progress of science and made the world better known, as it was the case of Louis-Antoine de Bouganville (1766-1769), James Cook (1768-1777), Jean- François de La Perouse (1785-1788) and Alexander Von Humboldt (1790-1829). In these expeditions, the naturalists followed strict procedures for collecting samples of fauna, flora, minerals, and rocks, recording other essential elements such as maps, government designs, business practices, historical aspects, new cultures, in order to spread the 'new world' in Europe.

A significant boost to travel and tourism was given in the 19th century with the advent of travel literature. At this time, several books began being published with titles that referred to a trip or a visit somewhere. Fuster (1971) highlights some relevant books such as Henry Swinburne's *Picturesque Tour Through Spain* (1810), *Mémoires d' un touriste* (1838), by Stendhal, and the three volumes of Thomas Roscoe's *The Tourist in Spain* (1836-1838). With these and other books that followed, the romantic era successfully promoted splendid landscapes, capturing places that stood out for their geological uniqueness and thus aroused the interest of the public who consumed romantic literature in several parts of the world. It is important to underline, as Hose (2012) states, that one of the greatest legacies of the romantic movement for modern travelers, tourists, and [future] geotourism was the interest in natural and wild attractions, as romantics valued life outdoors and the landscape of mountains, slopes, and cliffs. Through writing, drawing, and painting, this legacy has been preserved to present days, and the need for information/knowledge about these lush landscapes was rescued by geotourism.

This period extending from antiquity to the 19th century, is called, within tourism studies, as pre-tourism (Molina, 2003). It is characterized precisely by the intensification of traveling during the great navigations with the exploration of new lands in the 16th and 17th centuries, and the Grand Tour in the 17th and 18th centuries. Hose (2016) points out that the Grand Tour loses strength in Europe with the French Revolution and the Napoleonic Wars (1789 -1815). However, in 1840, after the Battle of Waterloo, Grand Tour-equivalent travel experiences regained momentum with the development of railways, which provided faster traveling for more people. This new travel movement is called by Hose (2016) as the 'first wave of mass tourism'. It is relevant to point out that during this period of pre-tourism, the trips had a learning nature on the part of the travelers, but there were no specific structures focused on the education and knowledge of these visitors. The acquisition of knowledge was through aesthetic and social appreciation, without interpretative and supportive structures and services that characterize current tourism and geotourism.

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Travel begins to gain the shape of current [or industrial, as Molina, 2003] tourism only during the Industrial Revolution and the emergence of the conception of leisure in the 19th century (Boyer, 2003; Molina, 2003; Figueiredo & Ruschmann, 2004). During this period, the first travel agencies appeared, such as Stangen, in 1863, in Germany, which organized and operated the first travel for tourism purposes in 1878; and Thomas Cook and Son, who in the mid-nineteenth century pioneered the organization of travel packages (Molina, 2003). However, tourism was, until the middle of the 20th century, a predominantly elitist activity, as it was possible to undertake leisure trips only for a privileged minority with favorable economic conditions. Nevertheless, after World War I, Hose (2016) highlights the interest in outdoor leisure and cycling tours in Europe. During this period, there was an improvement in the roads, accommodations, and topographic maps that favored group travel.

During the post-World War II period (1950-1980), a developmental process by the nations of the First World began, which launched the technical-scientific advance of the means of transportation and communication, that, along with new labor conquests, has made leisure, culture, and tourism accessible to the working class. During this period, there was an exponential growth of tourism, which reached the peak of its massification in the 1970s (Pires, 2002; Molina, 2003; Boyer, 2003). This postwar developmental process also brought to light new reflections on development. For a long time being synonymous with economic growth, the notion of development begins to take shape that includes more subjective aspects aimed at meeting the basic needs of the population (Boisier, 1999). Thus, in the following decades, the construction of new conceptions of development such as Human Development emerged, stimulated by the works of theorists such as Seers (1969); Ecodevelopment, spurred on by Rachel Carson's *Silent Spring* (1962), Meadows's *The Limits to Growth*, 1972, and the Stockholm Conference (1972); Local Development in the 1990s; and Development as Freedom, proposed by Amartya Sen (2000).

The growing concerns about environmental issues and developmental conceptions reflected in concern with the impacts caused by the tourist activity. Thus, from the 1970s, alternative forms of tourism began to be thought and practiced. These forms of tourism considered unconventional become part of the agenda of official events such as the 1980 World Tourism Organization (UNWTO) Conference in Manila and the 1989 UNWTO Alternative Tourism Seminar in Algeria (Pires, 2002).). These new forms of tourism seek to highlight a positive interaction between the tourist and the natural and social environment they visit. Several forms of tourism advocating unconventional bias appear, such as ecotourism, cultural tourism, ethical tourism, rural tourism, among many other denominations. After World War II, there is still a proliferation of national parks around the world [especially in the 1970s]. These parks needed environmental management to reduce the environmental impacts caused by visitors. Environmental interpretation is beginning to be practiced, first in the United States, then in Europe and elsewhere in the world. Hose (2016) points out that this is where geotourism's foundations are based.

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Hose (2000) demonstrates that despite a legacy of scholarly publications on geological localities (or even geosites), geological maps, fossils, and rocks important for understanding the history of Earth and Humanity, this valuable information is often not shared with the public. Besides that, it is challenging to find well-prepared information in museums and ancient historical buildings to aid in the interpretation of geological materials and artifacts. Although modern geology originated in the 16th century, its lack of accessibility made it distant from the public, ignoring a long tradition of research and publication about the history of the earth and the appreciation of geological heritage. One of the ways geologists have found to regain its prestige has been to recognize that geological knowledge may be of interest to other areas, such as tourism. For this purpose, it would be necessary to create mechanisms to facilitate the interpretation of a geological site [or geosite] using the translation of geological techniques and scientific language, data, and concepts in simpler terms for the understanding of non-specialized users. With this in mind, from the 1960s onwards some initiatives to conserve, present and promote places of geological interest have emerged through museums and specialized centers, tourist-oriented trails, provision of interpretation of geological material through informative signs, maps, guided tours, photo exhibitions, drawings, videos, and billboards (Hose, 2000).

It is noteworthy that this movement of environmental interpretation referred not only to geological aspects, with emphasis on relief [geomorphological features], but to nature in general. Moreover, during this first moment, the conception of geotourism did not exist yet, arising only in 1995, when proposed by Thomas Hose. From the late 1980s on, the scientific debate spread to other areas when the Brundtland Commission presented the concept of sustainable development in the report *Our Common Future* (1987). Sustainable development, as well as its institutional responsibility, is later discussed at the United Nations Conference on Environment and Development, known as the Rio Conference. In the late 1980s, the idea of sustainable development reinforced by these events and documents was incorporated into the area of tourism (Ruschmann, 1997; Butler, 1999; Swarbrooke, 2000; Pires, 2002; Mccool, Butler, Buckley, Weaver & Wheeler, 2013). We can mention JJ Pigram's scientific paper, published in 1990 [the first to use the term sustainable tourism], the issue of the *Journal of Sustainable Tourism* in 1993, and the first conference on sustainable tourism held in Spain in 1995 (Mccool et al., 2013) as milestones of the rise of the debate on the subject.

The notion of sustainable tourism has gained a great deal of attention from researchers and official tourism organizations, and many definitions, researches, and discussions on the subject have emerged, leading to a variety of interpretations. Butler (1999) points out that after a decade of the emergence of the term, a satisfactory definition of sustainable tourism had not yet emerged. Furthermore, the author highlights the need for monitoring and measuring the sustainability of tourism practices from a time perspective to point out whether tourism in a given locality is sustainable or not. Even with these considerations, the issue of sustainability has been inserted in the discourse of both the market [not only tourist] and governments, being present as a premise of many tourist companies and government development plans to the present day. Also, conceptions

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of local, regional, and endogenous development have a strong influence on tourism programs and plans, and community involvement becomes central to debates about sustainability.

It is during the 1990s that the conception of Geoparks also emerges, aiming at the sustainable development of regions with relevant geological heritage, through the promotion and conservation of geodiversity. In 1997, four European territories experimented with the concept of Geopark in cooperation with UNESCO and, in 2000, founded the European Geoparks Network (Moreira, 2014). The creation of geoparks contributed to stimulate geotourism since tourism was used as a mechanism of economic development of these regions and had as its main attraction geological elements. In 2004, the Global Geoparks Network was officially created, and in 2015 it became an official UNESCO program: Global Geoparks. Examples as the Man and Biospheres (MAB Programme) and World Heritage, in which geological heritage sites represent part of a holistic concept of protection, education, and sustainable development that should generate economic activity through tourism, comprising geosites of scientific importance, rarity or beauty. Currently, the UNESCO Global Geoparks Program has 147 geoparks in 41 countries (Unesco, 2019).

The management and functioning of geoparks are part of local communities, a discussion that arose in tourism from the late 20th and early 21st centuries when anti-globalization movements emerged, consisting of various protests against the current capitalist system and neoliberal policies [which appeared during the post World War II]. These movements have had a significant influence on the conception and development of community-based tourism in developing countries, which seeks to bring the autonomy of the local community in the planning and organization of tourism activity (Urano, Siqueira & Nóbrega, 2016). The period is also marked by a paradigm break in crucial concepts of tourism, being called by Molina (2003) as post-tourism. It is important to note that the historical stages of tourism proposed by the author [pre-tourism, industrial tourism, and post-tourism] differ from other proposals, because although they evolve within a historical context, these stages may coexist in the same territory and time. In other words, with the emergence of a new stage, not necessarily there was the disappearance of the way tourism was structured in the previous stage. It is considered relevant to highlight that the post-tourism presented by Molina, in 2003, is strongly characterized by the transformation of the tourist offer, made possible by the technological innovations that break conception paradigms about the activity, such as displacement, interaction with the local community and simulation of natural scenarios by the application of technologies.

However, the understanding of post-tourism presented here goes beyond the perspective of Molina (2003). It refers to him in postmodernity, characterized by the multiplicity of motivations, experiences, and places seen as touristic (Uriely, 1997), which is strongly influenced by technological innovations, but also by economic, social, environmental, and cultural changes. The postmodern tourist has become more demanding due to quick and easy access to information, and is more adept at individualized travel and personalized packages, is an active traveler looking for unique and

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innovative experiences, and more aware of environmental and social issues. (Tito, Brumatti & Nobrega, 2017). Within this historical and social spectrum, geotourism emerges as a reflection of four contexts: (1) the need to highlight the importance of geodiversity and geological heritage, (2) the importance of its conservation; (3) the need for interpretation for the general public; and (4) the transformations suffered by tourism activity after the peak of its massification with the inclusion of the concept of sustainability in its planning and the offer of new forms of tourism to satisfy a demand constantly influenced by the economic, social, environmental, and cultural changes of postmodernity.

GEOTOURISM IN THE LIGHT OF TOURISM'S THEORETICAL PERSPECTIVE

As the practice of geotourism is propelled from postwar, the theoretical discussion on the subject is built and matured. There is currently an increasing number of researches with a diversification of their objectives and methods, as well as the emergence of an international research community (Ruban, 2015). From 1995, with the pioneering spirit of Thomas Hose, various concepts of geotourism are formulated, not always consensual, but sharing some common points [Chart 1].

Chart 1 - Systematization of the main definitions of geotourism

ANO	AUTOR	DEFINIÇÃO	CATEGORIAS
1995	Hose	"The provision of interpretive and service facilities to enable tourists to acquire knowledge and understanding of the geology and geomorphology of a site (including its contribution to the development of the Earth Science) beyond the level of mere aesthetic appreciation" (p. 2).	<ul style="list-style-type: none"> - Provision of interpretation structures and services; - Acquisition of knowledge; - Geological and geomorphological resources.
2000	Hose	"The provision of interpretative facilities and services to promote the value and societal benefit of geologic and geomorphologic sites and their materials, and ensure their conservation, for the use of students, tourists and other recreationalists" (p. 136).	<ul style="list-style-type: none"> - Provision of interpretation structures and services; - Promotion of social benefits; - Geological and geomorphological resources - Conservation; - Students, tourists, and recreationists.
2004	Siomka & Kicinska-Swidorska	"Offshoot of cognitive tourism and/or adventure tourism based upon visits to geological objects (geosites) and recognition of geological processes integrated with aesthetic experiences gained by the contact with a geosite" (p. 6).	<ul style="list-style-type: none"> - Branch of tourism; - Geological resources; - Aesthetic appreciation; - Acquisition of knowledge.

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2007	Ruchkys	"A segment of tourist activity that has the geological heritage as its main attraction and seeks its protection through the conservation of its resources and the awareness of the tourist, using, for this, the interpretation of this heritage making it accessible to the lay public, besides promoting their dissemination and the development of Earth Sciences" (p. 23).	<ul style="list-style-type: none"> - Segment; - Geological resource; - Conservation, protection, and sensitization; - Provision of interpretation structures and services.
2008	Frey et al.	"Geotourism means interdisciplinary cooperation within an economic, success-orientated, and fast-moving discipline that speaks its own language. Geotourism is a new occupational and business sector. The main tasks of geotourism are the transfer and communication of geoscientific knowledge and ideas to the general public" (p. 97-98).	<ul style="list-style-type: none"> - Business Sector; - Acquisition of knowledge; - Geological resources.
2010	Newsome & Dowling	"Geotourism is a form of natural area tourism that specifically focuses on geology and landscape. It promotes tourism to geosites and the conservation of geo-diversity and an understanding of earth sciences through appreciation and learning. This is achieved through independent visits to geological features, use of geo-trails and viewpoints, guided tours, geoactivities, and patronage of geosite visitor centers" (p. 232).	<ul style="list-style-type: none"> - Geological resource; - Landscape; - Form of tourism in natural area; - Conservation; - Geodiversity; - Acquisition of knowledge; - Provision of interpretation facilities and services.
2012	Newsome Dowling & Leung	"It promotes tourism to geosites and the conservation of geodiversity and an understanding of earth sciences through appreciation and learning. This is achieved through visits to geological features, use of geo-trails and viewpoints, guided tours, geoactivities, and patronage of geosite visitor centers" (p. 19).	<ul style="list-style-type: none"> - Geological resources; - Conservation - Geodiversity - Aesthetic appreciation; - Acquisition of knowledge; - Provision of interpretation facilities and services.
2012	Hose	"The provision of interpretative and service facilities for geosites and geomorphosites and their encompassing topography, together with their associated in situ and ex situ artifacts, to constituency-build for their conservation by generating appreciation, learning and research by and for current and future generations" (p. 11).	<ul style="list-style-type: none"> - Provision of interpretation structures and services; - In-situ and ex-situ artifacts; - Geological resources; - Conservation; - Aesthetic appreciation; - Acquisition of knowledge; - Research.
2014	Moreira	"Geotourism is a sustainable tourism segmentation, carried out by people who are interested in knowing more about the geological and geomorphological aspects of a particular place, which is their main motivation for travel" (p. 29).	<ul style="list-style-type: none"> - Geological and geomorphological resource; - Segment; - Acquisition of knowledge; - Sustainability.

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2019	Chylińska	"Geotourism is a phenomenon of visiting geosites in which more emphasis is put on the final effect of acquiring knowledge about geodiversity by tourists than on linking geotravel with initial geotourist (usually cognitive) motivations of tourists" (P. 10).	<ul style="list-style-type: none"> - Phenomenon; - Geological resource; - Acquisition of knowledge; - Geodiversity
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Source: Adapted from Hose (2016).

In light of Table 1, some characteristics of geotourism can be pointed out, but only one of them is present in all the definitions presented: the geological resource. In this perspective, Hose (2000) is emphatic in stating that the main feature of geotourism is the geological resource that must be understood and interpreted for conservation purposes, which Dowling (2011) calls the geological basis of geotourism. Although there is no consensus among the authors, geotourism can occur in natural (Hose, 2000; Newsome & Dowling, 2010) or urban (Dowling, 2011; Hose, 2012; Ruban, 2015) areas; in situ or ex situ (Gray, 2004; Hose, 2012).

From the perspective of Earth Sciences, geological resources are useful materials that can be extracted and made a profitable usable good [current or in the reasonable future], that is, degradation already occurs as there is extraction for commercial purposes. However, from the perspective of the theoretical basis of tourism, a resource is the raw material with which we can plan the activity in a particular location, for example, the beach, the mountain, the cataract, among others. Tourist attraction, in turn, is the natural or cultural resource that attracts tourists for visitation that is already supplied with services, facilities, and infrastructure for tourist enjoyment such as accommodation, food, entertainment, access, among others. Hence, a resource becomes attractive when it is easily accessible, and features equipment, facilities, and infrastructure for tourists use. The tourism product goes beyond the idea of the product of the classical economy as something palpable but also considers it. It consists of a set of tangible and intangible services that exist only because of a resource available to a public that wants to buy it for a specific price (Barretto, 1995; Ignarra, 2003; Panosso Netto, 2010; Dias, 2013).

The structuring of tourism products has enabled the identification of market segments considering both supply and demand. Thus, segmentation emerges as a marketing strategy applying a group identification process, which is no longer generalist and now offers products for a specific clientele, to implement differentiated commercial strategies to meet their identified needs (Ansarah, 1999; Panosso Netto & Ansarah, 2015). With the evolution and increasing modification of tourism in postmodernity, it is more perceived the segmentation in tourism, considering the interpretations of demand trends relating to what the destination arranges, having several nomenclatures emerged (Panosso Netto & Ansarah, 2015). According to Molina (2003), similar behaviors do not determine a segment, once the reality is dynamic and mutant. The individual is no longer one; they are many, with different identities and interests, and that at the time of consumption can not be classified as unique. Some of these segments are structured using the geological heritage associated with various motivations, which may, at times, complement each other, as shown in Table 2.

Table 2 - Tourism segments that use elements of geological heritage.

Tourism segment	Motivation
Historical-Cultural	Seeks to know historical sites, museums, monuments, shrines, among others.
Sporting	People attending or participating in sporting events.
Ecological	People who enjoy contact with nature, breathing fresh air, photographing landscapes, among others.
Adventure tourism	Search for experiences that bring excitement and adrenaline of non-competitive character.
Ecotourism	Carry out activities with nature, involving aspects of education and environmental interpretation. Primary focus on nature, often highlighting biodiversity.
Rural tourism	Rest, contact, and knowledge of the traditions of the countryside. Focus on the rural environment.
Health	Improve health, which may occur in contact with nature and the use of geological resources (thermal waters, for example).
Geotourism	It seeks to know the geological heritage through interpretative facilities.

Source: Adapted from Moreira (2014).

Geotourism, as advocated by the authors of the area, has as its primary resource geodiversity and/or geological heritage, that is, its geological base (Dowling, 2011; Hose, 2016) that seeks to structure it as attractive (Meléndez-Hevia, Moreira & Carcavilla-Urqui, 2017), to compose a product with people willing to consume. However, we can see from Table 2 that geological heritage is not a particular aspect of geotourism, but is also a resource for other tourism activities. As we analyze the definitions of geotourism, the central idea is that its focus is on the acquisition of knowledge or learning about geological resources, filling the verified gap of lack of communication between the Earth scientist's community and the lay public. Thus, it is expected that tourists, beyond mere aesthetic appreciation, can acquire some knowledge about the phenomena they visit, which Dowling (2011) calls the geological informative in order to develop a pleasant and meaningful experience.

Thus, if one considers the acquisition of knowledge as a feature that differentiates geotourism from other forms of tourism, it can also be seen, from the reading of Table 2, an approximation with other forms that advocate knowledge, such as historical-cultural tourism, ecotourism, rural tourism, among others. It also highlights, in light of Table 1, the provision of interpretation structures and services as the predominant feature of geotourism. However, it is understood that if the idea is to promote knowledge acquisition, then there is an intrinsic need for the provision of interpretation structures and services, as in other tourism segments [see Table 2]. Tourism activity is based on the production and consumption of goods and/or services and, as such, needs to be shaped to satisfy the needs of its tourists where infrastructures are built that facilitate access, permanence, and satisfaction (Beni, 2011). The service and interpretation structures are some of the elements that make up the tourism product and are practically visualized in tourism through interpretative trails,

guided tours, drawings, videos, informative signs, among other means as a way to improve the tourism experience and promote the acquisition of knowledge (Panosso Netto & Ansarah, 2015).

When we deepen the characteristics of geotourism, beyond the geological basis, it is possible to observe in the literature that some authors point to sustainability, local benefits, and tourist satisfaction (Dowling, 2011; Newsome, Dowling & Leung, 2012). Sustainability includes the discussion of economic viability, social development, and geoconservation, having as its main challenge the development of tourism without negatively affecting the environment. Local benefits refer to involving local communities throughout the process, from locality management on geotourism to providing services that promote job and income generation. This involvement not only benefits the community and the environment but also impacts the quality of the tourism experience. Lastly, tourist satisfaction, a feature little discussed in the literature.

In this regard, it is essential to consider the perspective of sustainable development, which has its origins in the 1970s, and its assumptions based on the tripod of economic efficiency, environmental conservation and social equity, which has come to influence the world as a whole. In tourism, the activity began to be considered not only in its economic efficiency, as an activity that generates economic results, through the movement of people and their needs, but now includes the environmental concern, through the conservation of environmental resources, avoiding its degradation and also included the participation of society in the activity planning and management actions, receiving and promoting the benefits of the activity (Swarbrooke, 2000; Dias, 2008; Ruschmann, 2010). Therefore, their view cannot be reductionist and/or fragmented, but instead, as a result of the interaction of numerous environmental, socio-cultural, and economic elements (Buhalis, 2000). However, in some cases, the term is misused in tourism, as a synonym for specific forms of tourism, such as green tourism, ecotourism, rural tourism, geotourism, among others. According to Burgos & Mertens (2015), sustainable development cannot be seen as an exclusive feature of alternative forms of tourism that advocate conservation and social equity, beyond economic efficiency, but a common situation in the contemporary world that must reach all the forms of tourism. Regardless of the terminology adopted, tourism should promote benefits in its various spheres.

Thus, the idea of geoconservation, disseminated by geotourism theorists, should be worked on considering the discussions of the sustainability tripod that is long before its conceptualization, which led Hose (2000) to reformulate the concept of geotourism and add the conservation component, and other authors accompany this perspective (Gray, 2004; Ruchkys, 2007; Newsome & Dowling, 2010; Hose, 2012). Still considering the perspective of sustainable development, it is essential to highlight that it refers mainly to the consequences of the relationship between human beings and nature, considering the quality of life and well-being of society. Therefore, the social benefits infer the need for involvement, participation, and social mobilization as a sine qua non for its success, seeking to bring autonomy to the local community. It is the leadership of people through

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participation in economic and political life and collective actions that becomes central to the development and social transformation (Sachs, 1993; Bordenave, 1994; Green, 2009).

This discussion has already been widely held in Tourism, which has enabled the structuring and development of actions such as community-based tourism, which consists of community participation in the conception, planning, and organization of the activity (Coriolano & Lima, 2003; Irving & Mendonça, 2004; Uranus, Siqueira & Nobrega, 2016). Such conception has been incorporated into geotourism, mainly through the discussion of the geoparks management model, where there has been a need for social involvement for its success (Nascimento, Ruchkys & Mantesso-Neto, 2008; Farsani, Coelho & Costa, 2011; Newsome, Dowling & Leung, 2012). However, the emphasis of these studies has been directed explicitly to management models aimed at the creation of geoproducts, loading capacity, environmental education programs for tourists, government partnerships, among others. Thus, social benefits are restricted to job creation, income, and skills development, envisaging community support in the development process. This view is anchored in the traditional [industrial] model of tourism, which does not promote the empowerment and autonomy of the local community.

What seems clear is that the term sustainable development is socially constructed and reflects the interests and beliefs of different actors to achieve their goals, having various points of view. Some authors, such as Butler (1999) and Burgos and Mertens (2015), point out that there is no definition and consensus on the aspects and standards, with several questions emerging: What should be sustainable? Sustainable for whom? Sustainable for how long and under what conditions? There are no clear criteria, and it is common to issue parameterized opinions. However, the uniqueness of each case makes the existence of a universal response impossible. Sustainable development cannot be seen as an ideal state, but as a process of change that guides development towards attainable goals. Therefore, one of its biggest challenges is constant monitoring, to affirm more sustainable paths based on a set of measures, which becomes a challenge in the contemporary world.

Thus, we can see that the characteristics pointed out by geotourism theorists - geological resource, knowledge acquisition, interpretation structures and services, geoconservation, and local benefits - are anchored, on the one hand, in the theoretical and marketing perspective of tourism activity through the structuring of the segments and their motivations, reconciling the interests to and for tourism with basic conditions to meet the needs of tourists. On the other hand, they are also anchored in the perspective of sustainable development that began to reflect in various areas encompassing concepts of environmental conservation, economic efficiency, and social equity that are not unique to geotourism.

Parallel to the characteristics of geotourism, some authors seek to categorize geotourists. Hose (2016) presents a diagram that addresses three behavioral characteristics of tourists visiting geosites: socially involved, physically active, and intellectually engaged. From these characteristics,

he classifies geotourists into three types: dedicated, casual inactive, and non-engaged active. The dedicated geotourist would be that individual who intellectually engages with the geology theme, who has a specific interest in the geological aspect visited, such as researchers, collectors, geologists, geology students, among others. The casual inactive would be the one who is most socially involved with the geosite, looking for social interaction and pleasure as students and tourists in general. Finally, the non-engaged active would be those physically active, who seek the geosite for the interaction with the landscape through certain activities or sports such as hikers, adventure sports practitioners, photographers, among others.

Some authors (Hose, 2016; Meléndez, Moreira & Carcavilla, 2017) point out that it is often inferred that the geotourist is seeking knowledge about geological aspects, but that, in fact, the main motivation of most is social interaction and the pursuit of pleasure. Dedicated geotourists thus constitute a very specific demand, made up of tourists with a high level of education and income, which Hose associates with allocentric tourists, as defined by Plog (1974). While the motivation of casual and non-engaged geotourists generally coincides with the motivation of tourists in other types of tourism (Chylińska, 2019), which means that geosites compete with other forms of tourism, as elucidated by the characteristics of geotourism.

In this spectrum, it is important to consider post-tourism conceptions inside postmodernity, in which the boundaries of traditional tourism are challenged and in which cultural and social capital (Bourdieu 1979) is at stake. There is an awareness of the tourist in search of an authentic tourist experience (MacCannel, 1976), looking at tourism beyond typical practices. According to Jansson (2018), there are several types of post-tourists, including those who see a correspondence in consumer culture as the essence of tourism, and this makes them no less touristy. Still, according to the author, the idea of categorizing the post-tourist in postmodernity is hard to justify because there are different lifestyles and people's identities are much more complex than that since, in one day they can surrender to traditional forms of tourism, and on the other day, follow alternative paths of tourist practice.

Here we can establish a discussion about the tourist being, based on activities, experiences, and actions related to the phenomenon of tourism because it is perceived that the experiences of various social subjects are the subject. This means that, although tourism products can be categorized, mainly for the sake of marketing, what will define being a tourist is the motivation of the subject of the action if this is intentional (Panosso Netto, 2011). Also, it is understood that it is difficult to fit the tourist in only one segment since there are behaviors that can encompass one or more motivations in a single trip. It is the set of these interests that will make this individual become a tourist, that is, the tourist as a state of mind. Casual geotourists can look to the landscape as their primary motivation and, consequently, can learn something about the geological heritage itself, while experts look for geological knowledge and can glimpse at the landscape (Chylińska, 2019). In both cases, they are nonetheless geotourists.

In this context, we can see in the various definitions of geotourism, many authors pointing it as essential to show the relevance of geology and the need for this perception by the general population for its conservation. Thus, the geotourist, in essence, is not the one who has an involvement with the theme, but the one who, in search of pleasure through tourism, acquires knowledge about the geological aspects of the visited place. In this sense, the facilities and services offered to tourists are mainly designed for casual inactive geotourists (Hose, 2016), as they dispose of a more accessible language to the general public and the awareness of the importance and conservation of geological aspects.

Thus, we can notice that geotourist typologies must be understood on the founding characteristics of tourism anchored in postmodernity, where the needs and desires of (geo) tourists are not unique and, therefore, cannot be seen as homogeneous characteristics.

FINAL CONSIDERATIONS

The reading of the history of tourism and geohistory of geotourism shows how the trips made during the Grand Tour, and later the naturalistic expeditions, as well as the travel literature, were essential for the valorization of the experiences and knowledge about the world, characterization of the cultural and natural aspects [biotic and abiotic], having constituted in the historical antecedents of geotourism. However, we can only understand the origins of geotourism in the light of modern tourism, especially with the massification of tourist activity in the post-industrial society, when holiday traveling is no longer just for an elite, consumption augmented with the increase of free time and improvement of the working conditions of the masses, beyond leisure growing appreciation. These factors were crucial for the growth of the sector and its consequent segmentation, resulting in the creation of appropriate infrastructures and services for various tourism segments (Boyer, 2003; Molina, 2003; Figueiredo & Ruschmann, 2004).

The debates around new development models, aimed at reducing the environmental impacts of industrial activity, started in the 1970s and consolidated from the 1980s with a focus on sustainable development, were fundamental for assuming tourism as a development model, able to incorporate economic, social, cultural, and environmental benefits in the light of the new perspective of sustainable development. The massification of tourism, the recognition of its multiplying effect on national and local economies, and its consequent segmentation, taking into account sustainability issues, allowed the dissemination of knowledge from various areas, including Earth Sciences.

The work elucidated the main aspects of geotourism activity: the geological resource, the knowledge acquisition, the provision of infrastructure and interpretation services, the conservation, and the local benefits, which are not unique to geotourism but when interconnected provide guidelines for the activity. In this context, we can define geotourism as a segment of tourism activity that seeks to sustainably use geological heritage as its primary tourist resource, promoting

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knowledge acquisition and conservation. It is necessary to emphasize that the promotion of social equity, economic efficiency, and environmental conservation is a sine qua non for sustainable development and, therefore, for the practice of tourism and its segments.

It is suggested that geotourism research should incorporate the autonomy and empowerment of local communities, beyond discussing employment and income generation. Moreover, the development of clear strategies and criteria for assessing the sustainability of the activity and its constant monitoring constitutes a challenge. Finally, a limitation of this study is the discussion of geotourism in the context of postmodernity, where the barriers of traditional tourism are broken down, and social and cultural capital comes into play so that the motivations and classifications of (geo)tourists would be discussed from perspectives of the tourism in postmodernity. Therefore, we expect the findings of this paper, as well as its suggestions and limitations, to contribute to the new perspectives of geotourism studies.

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