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## Odessa catacombs as an integral part of the tourist image of the Black Sea region

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**Abstract.** The article examines the history of the Odessa catacombs, focuses on the history of research of underground labyrinths, and their gradual transformation from objects of scientific interest to tourist objects. We understand the tourist image of the region as the system of rationally and emotionally formed ideas, which are based on specific features of the territory, emphasizing its individuality from the point of

view of the tourists. Tourist image always is woven into a certain historical context and social situation. Each era generates its special perception of the environment, changing the era creates a modification of tourist image of the region. The Odessa catacombs, which today are an integral part of the tourist image of the Black Sea region, also have changed in the minds of people from time to time – from their purely practical application to the production of limestone; for a while they had a negative reputation as a refuge for criminal elements, smugglers. At the beginning of the last century researchers have engaged in advanced studies of catacombs. Only in the second half of the twentieth century, the catacombs became interesting tourist destination for individual tourists, but in the 21st century and for mass tourism. Thus, the purpose of this research is to update the modern views about the catacombs and underground museums of the Black Sea region and their contribution to the formation of the tourist image of the region. The history of the formation of the catacombs shows that they are obliged to exist in their existence by the ancient Pontian limestone, which was extracted as a building material by locals. Today, the length of the catacombs of Odessa and its suburbs reaches for various data from 1.7 to 3.0 thousand kilometers; they are famous for their multistage and meandering passages of underground galleries. The first studies of the dungeons were done by the paleontologist O. Nordman, the geologist M. Barbot de Marne, T. G. Hrytsay, modern – A. Dobrolyubsky, K. Pronin, M. Baranetsky, A. Babich, V. Yudin, and others. Several museums were created for tourists: the Museum of Partisan Glory in the village of Nerubaysk, the underground Grotto of the Odessa Art Museum, the museum «Catacombs of Odessa» under the Moldavanka district and in the city center «Kantakuzen's Catacombs». The quality of images that arise in mass tourists is directly related to the process of knowledge of the territory. In this connection, the development of travel routes as a way of getting acquainted with the territory becomes especially important. Moreover, contemporary museums are interested in attracting a wide target audience; they also offer expositions of different directions from mine history to various legends about the use of dungeons, from unique paleontological finds to historical drawings and inscriptions on the walls of the catacombs. As a result of understanding the importance of the existence of such an invaluable scientific and tourist facility, as well as maintaining it in a proper condition for historical and cultural monument, influences the formation of a positive tourist image of the Black Sea region.

*Keywords: tourist image, Odessa catacombs, Black Sea region, underground museums*

## Одеські катакомби як невід'ємна складова туристського образу Причорноморського регіону

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**Анотація.** В статті розглянуто історія виникнення катакомб, приділено увагу історії досліджень підземних лабіринтів, їх поступова трансформація від об'єктів наукового інтересу до туристичних об'єктів. Туристський образ розглядається як система раціонально і емоційно сформованих уявлень, в основі якої лежать специфічні особливості території, що підкреслюють її індивідуальність з точки зору масового туриста. Він завжди вплетений в деякий історичний контекст і соціальну ситуацію. Одеські катакомби, які є на сьогоднішній день невід'ємним елементом туристичного образу Причорноморського регіону, також змінювались у свідомості людей час від часу – від суто практичного їх застосування для видобутку ракушняку; деякий час вони мали негативну репутацію притулку для кримінальних елементів, контрабандистів. На початку минулого століття катакомбами займалися науковці. Лише у другій половині ХХ століття катакомби стали цікавим туристичним об'єктом спочатку для окремих туристів, а в ХХІ віці і для масового туризму. Отже, метою дослідження є актуалізація сучасних уявлень про катакомби та підземні музеї Одещини та їх внесок у формування туристичного образу регіону. Історія утворення катакомб

свідчить, що своїм існуванням вони зобов'язані понтичному вапняку, який видобувався в якості будівельного матеріалу місцевими жителями. Сьогодні довжина катакомб Одеси та її передмість сягає за різними даними від 1,7 до 3,0 тис. км, славляться вони своєю ярусністю та звивистими ходами підземних галерей. Для туристів створені декілька музеїв: Музей партизанської слави в селище Нерубайське, підземний грот Одеського художнього музею, музей-заповідник «Катакомби Одеси» під районом Молдаванка та в центрі міста – «Катакомби Кантакузена». Якість образів, які виникають у масового туриста, безпосередньо пов'язана з самим процесом пізнання території. У зв'язку з цим особливої уваги набула розробка маршрутів подорожі як способу знайомства з територією. Оскільки сучасні музеї зацікавлені у залученні широкої цільової аудиторії, то і пропонують експозиції різного напрямку від історії шахтної справи до різних легенд щодо використання підземель, від унікальних палеонтологічних знахідок до історичних малюнків та написів на стінах катакомб. Розуміння важливості існування такого безцінного наукового та туристичного об'єкту, а також підтримка його у відповідному для історичного та культурного пам'ятника стані, впливає на формування позитивного туристичного образу Причорноморського регіону.

*Ключові слова:* туристський образ, одеські катакомби, Причорноморський регіон, підземні музеї.

**Introduction.** The development of tourism is inseparable from the development of tourist destination region with the appropriate resources, infrastructure and other conditions for the reception of tourists. In an effort to attract and serve as many foreign guests and domestic tourists as possible, the tourist destination regions are constantly competing. In obtaining competitive advantages, an important role is played the creation of an attractive image of the tourist territory. A positive image depends on favorable natural conditions, a rich historical and cultural heritage and a comfortable environment. Its important elements are natural landscapes and unique natural objects, historical monuments, architectural ensembles, infrastructure, as well as immaterial culture of the region. For the development of inbound tourism it is necessary that the image of the tourist region is being widely known and recognizable. We understand the tourist image of the region as the system of rationally and emotionally formed ideas, which are based on specific features of the territory, emphasizing its individuality from the point of view of the tourists (Kolomijec', Javors'ka, Sych, 2017).

In its basis, the notion of tourist image is similar to a geographical image, which refers to the system of the most powerful, bright and large geospatial signs, symbols, characteristics describing the peculiarities of the development and functioning of certain cultures and / or civilizations in a global context (Zamyatin, 2006). However, in contrast to the geographical image, which usually reflects the characteristic, sometimes even typological features of the country, in a tourist image attention is focused on its unique features or objects that are interesting from the point of view of the tourist. As a result, representations are not about the entire territory (region, country) as a whole, but about its fragments. Consequently, such complex territorial systems as a region or country are reduced to several territorial elements (most often, cities or historical centers are involved in this simplification, more rarely the most significant sights). The tourist image is characterized by a special dynamism and can be updated taking into account the seasonality of tourism activity, as tourism development territory or changing needs of tourists.

In today's conditions of acute competition in the tourist market, the presence of a positive integral image is an indispensable condition for the development of the territory for tourist purposes. Being a special intangible asset, an attractive image of the region can bring significant benefits through the attraction of tourists, as well as investments in infrastructure development.

The tourist image of the Black Sea region have been forming by objective (individual peculiarity and features of the territory) and subjective factors (related to the psychological characteristics of the individual), which gradually changed at different stages of the formation of the image. The tourist image of the region is always woven into a certain historical context and social situation. He can not be outside the nation, mentality, world outlook. Each era generates its special perception of the environment, changing the era creates a variable tourist image of the region. The Odessa catacombs, which today are an integral part of the tourist's image of the region, have also changed in the minds of people from time to time - from their purely practical application to the production of limestone to a tourist attraction (Javorskaja, Shashero, Kolomiec, 2015). For a while, they had a negative reputation as a refuge for criminal elements and smugglers. The study of the Odessa catacombs by scientists began in the XIX century and continues to this day. Only in the second half of the twentieth century, the catacombs became interested in tourism, mostly amateur speleotourism. The number of tourists and the underground museums has been rising themselves since the beginning of the XXI century.

Thus, **the purpose of this research** is to update the modern views about the catacombs and underground museums of the Black Sea region and their contribution to the formation of the tourist image of the region.

**Methods.** We studied the scientific publications about catacombs and visited some sectors of the subterranean where now museums have been opened. The first studies of the Odessa catacomb were done by the paleontologist O. Nordman, the geologist M.

Barbot de Marne, the first director of the underground paleontological museum T. G. Hrytsay, modern researchers are doing by scientists – A. Dobrolyubsky, K. Pronin, M. Baranetsky, A. Babich, V. Yudin, and others. Such Ukrainian scientists as K. Mezentsev, M. Mironenko, A. Parfuyenko, K. Shichkova, S. Ulyganets and others have devoted their papers to the issue of the tourist image formation of the country in whole and different regions. At the same time, insufficient attention is paid to the issue of the influence of individual unique objects on the formation of tourist image of the region.

**The main results of the study.** The tourist image of the region consists of many elements. For Odessa, along with the Opera House, the Potemkin Stairs, Deribasovskaya Street, the catacombs are quite recognizable and characteristic objects of the excursion show for this area, which are involved in the formation of the tourist image of the Black Sea region (Shashero, 2017).

By its existence, the Odessa catacombs are obliged to a Pontian limestone, consisting mainly of skeletal fragments of marine organisms. Limestone in the steppe area was actively used for housing construction by the ancient inhabitants of the Black Sea region. The Scythians, the Greeks, the Romans, followed by the Slavs, took limestone on the seaside slopes and ravines, where the stone naturally went out to the surface. With the commencement of the construction of Odessa in 1794, the mining of stones increased sharply and there were small underground quarry-catacombs that gradually expanded from the coastal zone to the central regions, to Slobidka and Moldavanka, as well as to the suburbs – Kulyalnik, Usatove, Nerubayske. The produced quarries, over time, were abandoned; there were new ones, which intersected with each other and with old workings. There was no centralized plan for the production of limestone. As a result, limestone thickets near Odessa and the suburbs were permeated by mining in all directions and at all levels. And the constructing of a limestone, which was much cheaper than bricks, was carried out until the middle of the twentieth century. You could see such homes in 3–5 floors in the old part of Odessa, they have a pleasant color from bright yellow to brown, so there was no need to cover them with plaster.

The maximum thickness of the limestone layer in the Odessa region is 15.7 m, and on average it

ranges from 7 to 12 m (Judin, Pronin, 1985). Its middle layer is called «sawed limestone», thanks to the fact that the stone are easy to cut on blocks even with ordinary saws. The builders also noticed that «sawed limestone» in the air became stronger and therefore was pulled out to the surface and allowed to stand for half a year before building from it. For cutting a stone in Odessa, even special saws were brought in Britain, which allowed, firstly, producing a brick of the exact size, and secondly, the process of production substantially accelerated. If the thickness of the layer allowed, the extraction of the stone was conducted in several tiers.

Gradually mining excavation formed a huge underground labyrinth, which has a lot of entrances in the coastal cliffs, on the slopes of ravines, in the basements of buildings. Thus, in the mid–80s of the last century, it was known about 745 primary entrances to the quarry (Judin, Pronin, 1985), and there are also secondary entrances through water wells, sewers and «mines». The latter are long underground cavities excavated in loose sedimentary rocks. Officially, «mines» were made by homeowners as «refrigerators» – there were layers of straw and ice, which did not melt almost all year round, and placed meat, wine, dairy products on top. But in fact, the «mines» most often hide smuggled goods. Adventurers deliberately broke «mines» outside the buildings, where, passing under the streets and squares, they were connected with quarries.

Odessa hides under itself one of the largest underground labyrinths on the globe. Today, the total length of the Odessa catacombs reaches about 2.5–3 thousand kilometers, extending far beyond the boundaries of the «Pearl by the Sea», leaving behind the famous catacombs of Paris and Rome. But this figure consists of the length of all sections of the catacombs, as the mining were carried out in the suburbs. The length of the catacomb under Odessa has also been calculated, and is 384 km on November 1, 2017. Among all the labyrinths, the largest is the Nerubayske–Usativsky massif. According to specialists, its length can reach 900 km (Bukarenko–Vasil'yeva, 2017). The galleries of catacombs lie at different depths from the surface of the earth. In fact, it is a whole underground city, consisting of peculiar avenues, streets, alleys, deadlocks, squares. Under the ground there are halls with columns, rooms, narrow lanes and wide lanes (fig. 1).



**Fig. 1.** View of the Odessa catacombs

The first studies of the Odessa catacombs began in 1846 by the Finnish paleontologist O. Nordman, who was invited to the Department of Natural History in Odessa, at the Richelieu Lyceum for the post of professor. He found on the slopes of the Quarantine Ravine a karsts cave with fossil remains of animals. In 1869 the Russian mining engineer, professor of geology at the St. Petersburg Mining Institute M. Barbot de Marnee researched the cave. The descriptions of the quarry from the years 1830–1870 were preserved. The city administration organized an expedition in 1875, which resulted in the mapping of a quarry and their description (Dobroljubskij, Krasnozhon, 2007). Unfortunately, only the descriptions of the documents of this expedition have been preserved, but the documents themselves have not yet been found.

The research continued in Soviet times. In 1929 year an expedition was organized under the leadership of Timofey Grigoryevich Grytsay. For Odessa it was a legendary person. In the Second World War he assisted the partisans in the catacombs, after the war he led the paleontological museum at the Odessa State University. During his participation, 49 catacombs were explored, 40 km of excavations were mapped, 45 catacombs were photographed (Rjasikov, Muha, Suvorov, 2006).

After the end of the expedition of T. G. Grytsay, the catacombs, of course, were visited, but this was done episodically, on small plots and was purely utilitarian purposes. There were examined only those areas where it was planned to carry out reinforcement or mining works. In 1964, the Odessa Anti-landslide Department was created, one of the tasks of which was to study the catacombs and to eliminate their negative impact on the city. The research expedition named «Search» was organized in 1965 to study quarries. Also catacombs are studied by speleologists (headleader L. Sukhovi), the Odessa National I. I. Mechnikov University, the Center for Engineering Searches of the National Academy of Sciences of Ukraine, etc. In 2001, the company «Hydrogeoservice» began complex research of catacombs using modern methods of geophysics, drilling, telemetry.

Odessa catacombs are famous for their numerous «cave paintings» and inscriptions, which began to appear in them since 1812. Ancient drawings and inscriptions are important for ethnographic and historical research. Well preserved drawings showing the various stages of limestone mining, as well as tools used by workers. The drawings were made with red chalk, charcoal, graphite (fig. 2).





**Fig. 2.** «Cave painting» of the catacombs (<http://mayak.org.ua/news/the-cathedral-and-sailboat-the-researchers-found-in-the-odessa-catacombs-rock-drawings-photos/>)

Among the drawings, a significant group is made up of portraits and cartoons, both for owners of mines and ordinary workers, and for well-known politicians, images of horses, and various inscriptions. Drawings and inscriptions on the walls of the Odessa catacombs have practical application not only for historical and ethnographic research, but also as objects of excursion display in catacombs for tourist groups.

The scientific community repeatedly considered the issues of caves and artificial historical underground structures, their history of occurrence, archaeological and paleontological findings, and legislative support. So, in December 2012 in Kyiv was held an International conference on the topic «Traditions of cave monastic complexes in Ukraine and Eastern Europe. Problems of studying, preservation and museification». One of the reports highlighted the lack of theoretical foundations, norms and rules for the preservation of cave complexes, located in complicated engineering and geological conditions, and, with them, objects of everyday life, culture and art (Izotov, Cherevko, 2013).

Another International scientific and practical conference «Problems of preservation and use of historical underground complexes in the conditions of negative technogenic impact» lasted from October 26–27, 2017 in the National Kyiv–Pechersk Historical and Cultural Reserve under the auspices of the International Research Center for the Conservation and Restoration of Cultural Values. Scientists raised a number of questions regarding the legal framework

for the conservation of underground historical constructions and spaces. As a result of the conference, participants determined the necessity of developing the State Program for Preservation of Historic Underground Constructions and Spaces, what would contain the normative issues of legal protection and practical professional preservation of historical underground structures and spaces. It was also suggested that the issue of urgent reform of the sphere of protection and preservation of the cultural heritage be carried out at the meetings of the Government of Ukraine, taking into account the prepared issues identified within the framework of this conference.

In 2016, three objects of cultural heritage in the Odessa region are listed in the State Register of Immovable Monuments of Ukraine. This is «Ancient quarry of Quarantine Ravine, 1811–1814 years», «Quarries of Moldavanka, 1850–1880 years» and «Underground passage of the Vorontsov Palace, 1826 year». These three objects were recommended by the Ministry of Culture of Ukraine in September 2015 for inclusion in the State Register of immovable objects of cultural heritage in the category of local significance as monuments of history, science and technology. Approval of these objects under the protection of the state will allow to further initiate the procedure for the inclusion of the catacombs in the main list of UNESCO World Heritage.

The Ancient Quarry of Quarantine Ravine is located on the right slope of the ravine under low-rise building on Bunin street 7, at a depth of 10–15 meters, is the oldest known in Odessa, from here and the extraction of limestone began within the city.

The Quarries of Moldavanka are located under city districts within the limits of Razumovska, Komitetska, Stepova, Melnitska and Balkovska streets at a depth of 15–25 meters. This massif consists of more than three dozen quarries, connected at different times, and is the conjoined underground labyrinth. The underground passage of the Vorontsov Palace has a total length of 140 m. It is located at a depth of 4 meters near the Military Ravine, under the building on Vorontsovsky Lane, 2, and begins with a small well in the basement of the Vorontsov Palace. The underground passage is the oldest underground excavation.

Depth of the quarry is from 4 to 30–35 meters. Part of the quarry is one-level mine working, although there are two- and three-level ones. The height difference between the level – up to 2.2 m. The dimensions of mine workings vary greatly; on average they make 1.8 m in height and 3.5 m in width. The highest are the Hall of «Sergei Berezovy» and the gallery «Passage» – have a height of 5 m. The largest width of mine workings is 5.2 m. But many underground passages as a result of landslides and shafts turned into narrow holes 25–30 cm high and 50-70 cm width. Air temperature under the ground all year round is +14 C°.

At the end of XX century the catacombs have become the cause of a sharp complication of the engineering-geological condition of Odessa. More than 40% of the old part of the city was built on underground mining workings, where over 100 sinkholes occurred. At the beginning of the XXI century limestone mining continues in the quarries located in Dofinovka, Buldinka, Fominska Ravine. Thus, the length of the Odessa catacombs is steadily increasing, but there is no single map of the catacombs. There is only a small fraction of the discrete maps and generalized schemes of the catacombs.

In our time, the catacombs continue to serve the city. In the remote galleries, separated from the main labyrinth with reinforced concrete crosspieces, the locals have arranged warehouses, cellars for cognac, emergency points of control and communication, and even have grown mushrooms. And still catacombs are very popular among tourists. Note that the quality of tourist images of the region is directly related to the process of knowledge of the territory. In this connection, the development of travel routes as a means of acquaintance with the territory becomes especially important.

The first museum in the catacombs, the Museum of Partisan Glory, was created in 1969 in the village of Nerubayske of the Odessa region. Catacombs here are at a depth of 12–14 meters underground. During the Second World War, the catacombs in the village of Nerubayske were the location

of one of the largest partisan detachments in the region. The museum exposition is devoted precisely to these actions.

Over time, the age-old and socio-cultural guidelines of tourists are changing, for example, in May 2017 in Nerubayske hosted the festival «Art in the catacombs», in which not only tours were organized, but also a round table «Metamorphosis» dedicated to redefining museum concepts and new approaches to the preservation of historical and cultural heritage. During the festival, visitors could take part in the search for «treasures» underground, learn to write encrypted messages and draw rock paintings.

Within Odessa there are also underground museums. Thus, the Odessa Art Museum offers visitors to explore the underground grotto. The museum's building is one of the oldest and most luxurious in the city, because it was built as a palace for princess Naryshkina (in the girls of Pototskaya). A huge underground grotto of the palace, according to legends, had several exits, one led in the catacombs, the other went directly to the sea and to the Primorskiy Boulevard. In the sixties of the last century, the specialists of the Odessa restoration workshops, based on historical documents, carried out a fundamental restoration of the grotto, which allowed it to open to visitors.

Into the museum «Catacombs of Odessa» were converted two massifs under Moldavanka. Approximately the boundary of the underground museum is the streets of Balkovska – Dalynitska – Babel - Mikhailivska. The total length of the underground passages of this museum is about 10 km. The Moldavanka catacombs began to be mined in the 1850s; they formed a large, distinct network, which in the early twentieth century, for the sake of convenience, united. Visitors could see a large civil defense object and command post of the Cold War (they are led by long stairs, starting in an obscure garage); shelter of underground partisans of the Second World War; caches of pre-revolutionary criminals; guides tell about the work and life of rockeries, which created the catacombs. The program also includes visiting the karsts cave «Odessa», where in 1929 researchers found remains of animals that lived on the territory of the present Odessa more than 3 million years ago – mastodon, cave bears, hyenas, saber-toothed tigers, camels, etc. In general, the Odessa caves are hard to reach for a person, their passing is complicated, often approaches to the caves are flooded with groundwater, such as the cave «Natalina» – the second in length in the south of Ukraine, and you can get there only in special equipment. Also on Moldavanka (2nd Razumovsky lane, 3-B) there is another section of the museum titled «Secrets of underground Odessa» (Fig. 3).



**Fig. 3.** Students of the Odessa I. I. Mechnikov National University at the conference in the underground hall of the museum "Secrets of underground Odessa".

In September 2017, another underground museum was opened in Odessa quarries. The exposition was created in the galleries of the so-called Kantakuzen's Catacombs (Bunina St., 7). The museum is named after Prince Alexander Kantakuzen, a descendant of the ancient Byzantine family, a student of the Richelieu Lyceum, military personnel, a member of the Greek resistance, and an Odessa landowner who was the first owner of this dungeon. This is the only old mine in the center of the city that has survived. The length of the quarry is 120 meters. A number of mansions of the historic city center were built from stone of this mine. In those days, the stone was already extracted in large volumes in the suburbs and villages, but due to cheap delivery, stones secretly continued to be excavated in the city. The first wall inscription in this Odessa catacombs dates back to 1812. Having completed its «construction» career in the XIX century, the catacombs have changed a lot of roles such as shelter of adventurers, the storage of the counterfeit, the refuge in the war years, and the unholy garbage of the last half century and finally a museum. Kantakuzen's Catacombs today tells its history and expositions about the construction of the city at an early stage, methods, materials and people. All exhibits of the halls – unique artifacts, from 200 to 100 years old were found and preserved by the researchers of the foundation «Memory».

Researchers identified six «cultural layers» during the clearing of quarries to a depth of 10 me-

ters. The same number of exhibition halls is presented to visitors of the catacombs: Hall 1 – mining in Odessa (excavation of sawn stone); Hall 2 – the history of the Kantakuzen's Catacombs; Hall 3 – brick production in Odessa and its suburbs; Hall 4 – furnace case, fireplaces, tiles, majolica; Hall 5 – history of the estate of Vorontsov in exhibits found during the restoration of the complex; Hall 6 – a general exposition of the finds made in the Odessa catacombs.

Unfortunately, an increase of the area of suburban construction (and, with it, the number of sewage wells in catacombs and garbage) leads to contamination of the Pontian aquifer, which can cause epidemics. Wetting of limestone reduces its strength, which eventually leads to sinkholes and destruction of buildings over the mine workings. Researchers at the catacombs and academics are worrying that we are losing the world's largest underground labyrinth, its historical, research, and even tourist attraction. As historical evidence suggests, underground cultural heritage can bring significant profits to local communities. For example, in Poland since 1978, the Wieliczka and Bochnia Royal Salt Mines are among the UNESCO World Heritage sites, and at the same time they became tourist objects. So in Germany, the old coal mine Zollverein in Essen was listed in UNESCO's 2001 list as an industrial heritage site that attracts the attention of tourists and encourages them to stay in Essen. The closed gold mines in the Polish city of Zloty Stok in 1995 were converted into a mining and metallurgical museum of gold. Coming

to these objects, the tourist receives a full set of tourist services - accommodation, food, souvenirs, which are the main income for the local community. And this approach, along with broad advertising, is part of public policy.

**Conclusion.** In the public consciousness, the tourist image of the region is due to previously accumulated knowledge, in the process of communicating tourists with local residents, with the help of purposeful propaganda as a whole region, as well as its individual objects, one of which is the Odessa catacombs. The evolution of the tourist image occurs in stages - from the little-known to the recognizable, popular, and, at last, the usual what we see on the example of the Odessa catacombs, which half a century ago were not used for mass tourism. Although the Odessa catacombs are an important part of the cultural layer, which carries unique information about the everyday culture of the pre-revolutionary period of Odessa, reports unexpected information about the war years, contains paleontological signs of prehistoric times. Consequently, the Odessa catacombs are an integral part of the tourist's image of the Black Sea region, and with an appropriate attitude to them as a historical and cultural heritage can contribute to attracting a wider audience of tourists to the region.

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