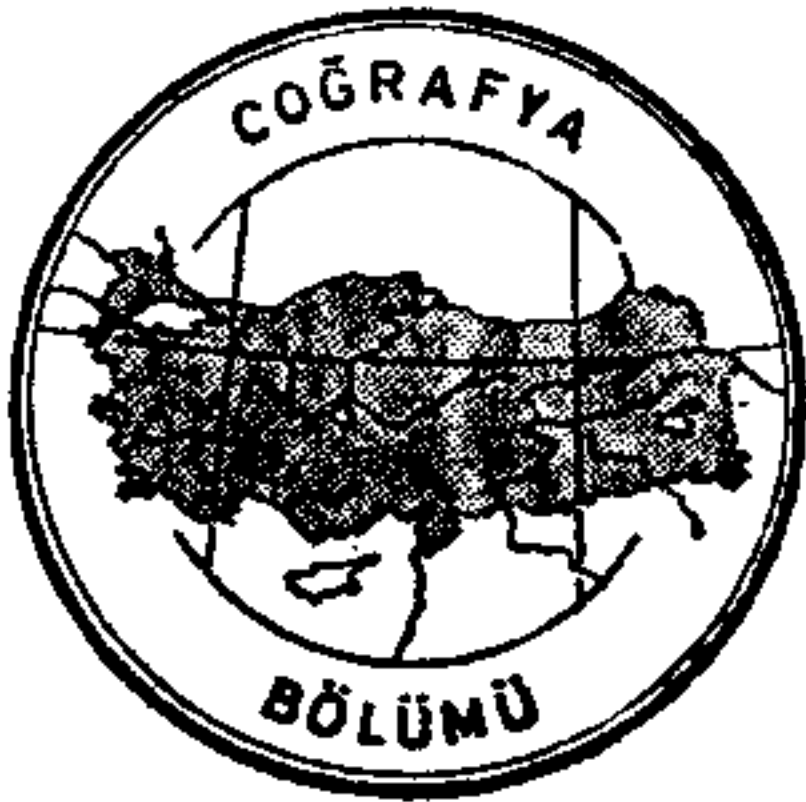


REVIEW

of the Department of Geography,
University of Istanbul

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IMPORTANCE OF FAIRY CHIMNEYS (EARTH PILLARS) IN TOURISM

Suna DOĞANER*

Introduction :

Interesting and rare landforms, plants, waterfalls, etc. the leading attractive elements formed upon natural conditions are principal resources of nature tourism. The above-referred mainly constitute an attractive force as characteristics discriminating places from each other. Among all, the landforms formed by the nature throughout millions of years and impossible to be human-made not only attract the researchers' attention as proofs of geological eras but also other people inclined towards : rural life away from that of the cities'.

Ürgüp-Göreme district shall be considered to have a particular importance among places of attraction where landforms accepted as «natural monuments» are utilized as visual resources in nature tourism. This district is in many aspects interesting for touristic purposes because while the volcanic erosional forms called as fairy chimneys (earth pillars) is included in «nature tourism», the settlement units engraved into the hillsides, under the ground and in the fairy chimneys in «culture tourism» and the churches and monasteries made in the same way by engraving soft tuffs in «religious tourism».

Fairy Chimneys in Nature Tourism

Fairy chimneys called as earth pillars in geological forms were formed and had been developed as a result of an excessive denu-

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ation and erosion caused by continuous rains after the volcanic activity on a topography formed by the tuff layer of the ashes erupted during volcanism (Erciyes Mountain, Hasan Mountain, etc.) and the lava (andesite, basalt, etc.) covering these tuff¹. Its leading importance regarding nature tourism originates from the largeness of the area covered by these landforms which is quite a rare landform all over the world. Combination of geological, geomorphologic and paleoclimatological conditions under such circumstances had led to the formation of those landforms providing Ürgüp-Göreme district with a worldwide fame with respect to touristic importance.

These landforms evaluated in visual respect in nature tourism constitute an attractive force of high values in Ürgüp-Göreme district regarding form, colour, intensity and dimensions. The figural differences of the fairy chimneys in a natural landscape bear visual importance. Their bodies are geometrically conic or cylindrical, symmetric or asymmetric, single or in combinations of two or three, with or without capstones on the top or with two or three capstones. While similar fairy chimneys are grouped in the same place, forms present differences in other parts due to the changes in conditions. The figural differences between the fairy chimneys are explained by the type of rock forming the body. The body is conical when the part forming it is of a single rock type and cylindrical when formed of different types of rocks². The fairy chimneys are of a straight cylindrical body at places where the rocks are horizontally located. In case of a certain angular difference between the inclination of the layer and the hill side, asymmetrical bodied fairy chimneys are formed³. For places where there are lava currents (basalt, andesite) covering tuffs, capstoned fairy chimneys are formed as a result of thinning of this hard layer resistant to erosion along cracks and tearing from the main layer. The cylindrical and capstoned fairy chimneys in Bağlıdere

1 Ö. Sür, Türkiye'nin Özellikle İç Anadolu'nun Genç Volkanik Alanlarının Jeomorfolojisi, (Ankara, 1972), p. 52.

2 Ö. Emre-Y. Güner, «Ürgüp Yöresi Peribacalarının Morfojenezi» Jeomorfoloji Dergisi, no. 16, p. 27.

3 idem, p. 28.

and Gökün creeks' valleys, asymmetrical and conical fairy chimneys in Alibağı location, symmetrical, conical combined bodied fairy chimneys with two-three capstones in Keşişler valley of Paşabağı location and two conical capstoned fairy chimneys two of which are adjacent in Çatalkaya location offer interesting views (Photos 1 and 2). Various forms among the fairy chimneys naturally engraved and likened to a kneeled camel, sea calf and other animals help one to work his imagination. Devrent valley is quite rich with such strong natural forms.

A further point of attraction for tourism is the great variety of colours in the surrounding and the valleys formed of light and dark tones of white, yellow, pink, gray and black. Related with the chemical composition of rocks, these colours may either individually cover large areas or be seen together in some parts. The white, red and decomposed rhyolitic tuffs seen in Ürgüp's formation and the reddish clayey-sandstone series around Avanos give the surroundings its peculiar colour⁴. The forms with sharp or round backs which may be called badlands topography in general extend in white waves in extension areas of white rhyolitic tuffs, in areas where the surface layers are not resistant. The yellowishwhite fairy chimneys are seen in extension areas of decomposed rhyolitic tuffs and the red, pink fairy chimneys in extension areas of red rhyolitic tuffs. Devrent valley has been named as «pink valley» after the pink fairy chimneys exiting here. Kızıl valley (Red Valley) was also named after the reddish fairy chimneys. The black colour generally seen on the capstones is dominant as the colour of lava (basalt). The district seems to make up a painting formed of all of the colors of the soil.

The fairy chimneys spread aside on a large area around Avanos-Nevşehir-Ürgüp give another characteristic to the district. The extension of fairy chimneys shall be expanded towards Ihlara valley in the west and Soğanlı valley in the south. The reason for such a wide scale extension was the widely effective volcanism from Miocene till the end of Quaternary. Volcanic activities of

4 A. Arık, «Avanos (Nevşehir) Yöresinin Jeomorfolojisi», Jeomorfoloji Dergisi, no 10, p. 141.



Photo 1 — Cylindrical shaped fairy chimneys in Bağlıdere Valley.



Photo 2 — Conical shaped with capstone fairy chimneys in Çatalkaya location.

Hasan Mountain around Ihlara valley in the west and Erciyes Mountain around Ürgüp have been quite effective in this geological process. The fairy chimneys increase in number in places where suitable conditions exist like in Göreme-Ürgüp-Avanos triangle and its surrounding. The districts where fairy chimneys are concentrated have been named after a creek in the valley where they exist, the nearest settlement point or a definitive characteristic of it. Göreme, Zelve Kızıl, Devrent (pink valley), Kılıçlar, Güllüdere, Bağlıdere, Killik, Vadi Harmanı, Uzundere, Avcılar, Güvercin, Gökün creek and Zemi creek and Pancarlık valleys between Göreme-Ürgüp-Avanos and in their near surrounding are mostly attractive points for tourism. (Figure 1). Ihlara, Açksaray (Çat), Yeşilöz, Soğanlı and Güzelgöz valleys in the next are other valleys remaining out of this triangle. (Figure 2). The dimensions (weight and diameter) of the fairy chimneys in the district are also different from each other. Height change between a few centimes and 25-30 meters and the wide diameters once allowed usage of their interior as dwellings. The crack system in the rock group, the location of the fairy chimneys on the hillside's profile, the presence and concentration of the hard rock layer to form capstone had been important elements affecting the variations of dimensions. Tuffs filled the valleys before volcanism forming a thick covering layer of hundreds of meters which prevented them from being worn out thereby allowing formation of high fairy chimneys. Existence of erosion-resistant rock types such as clay, marl and pumice acted as factors slowing down the formation of fairy chimneys. As erosion started along the cracks, small fairy chimneys were formed where the crack system was more existent. The highest and the widest fairy chimneys can be seen at the lower end of the mid slope zone where the developing stages of fairy chimneys' formation is observed. While the upper slope zone is indicative of the beginning stages, the lower slope zone of the old stage where deterioration and break down are observed⁵. When the tuff under the capstones of the capped fairy chimneys becomes thin by erosion the capstone weight fall just as can be seen on some examples in the district.

5 Ö. Emre-Y. Güner, op. cit. p. 29.

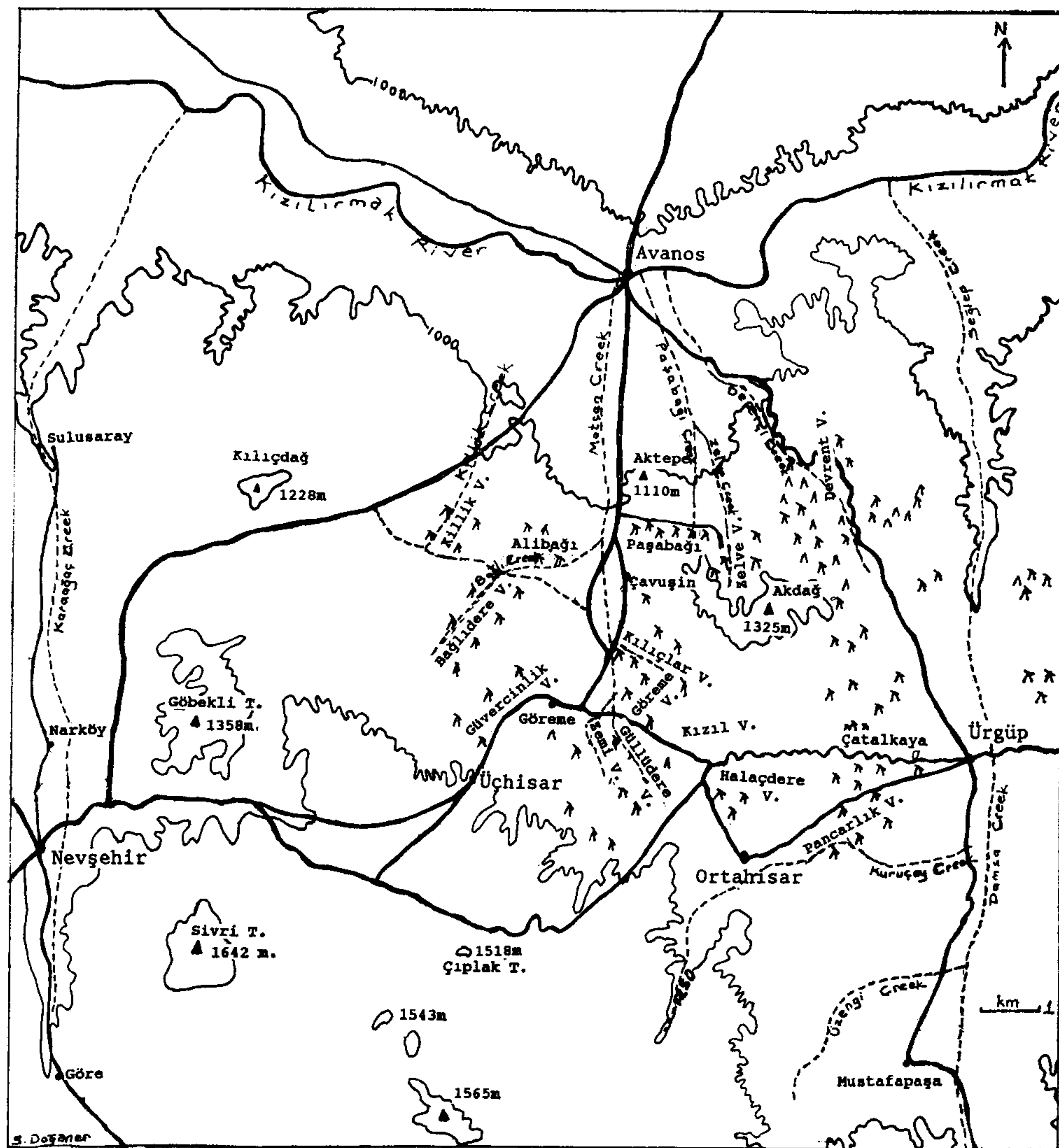


Figure 1 — Valleys With Interesting Fairy Chimneys Between Ürgüp - Göreme - Avanos.

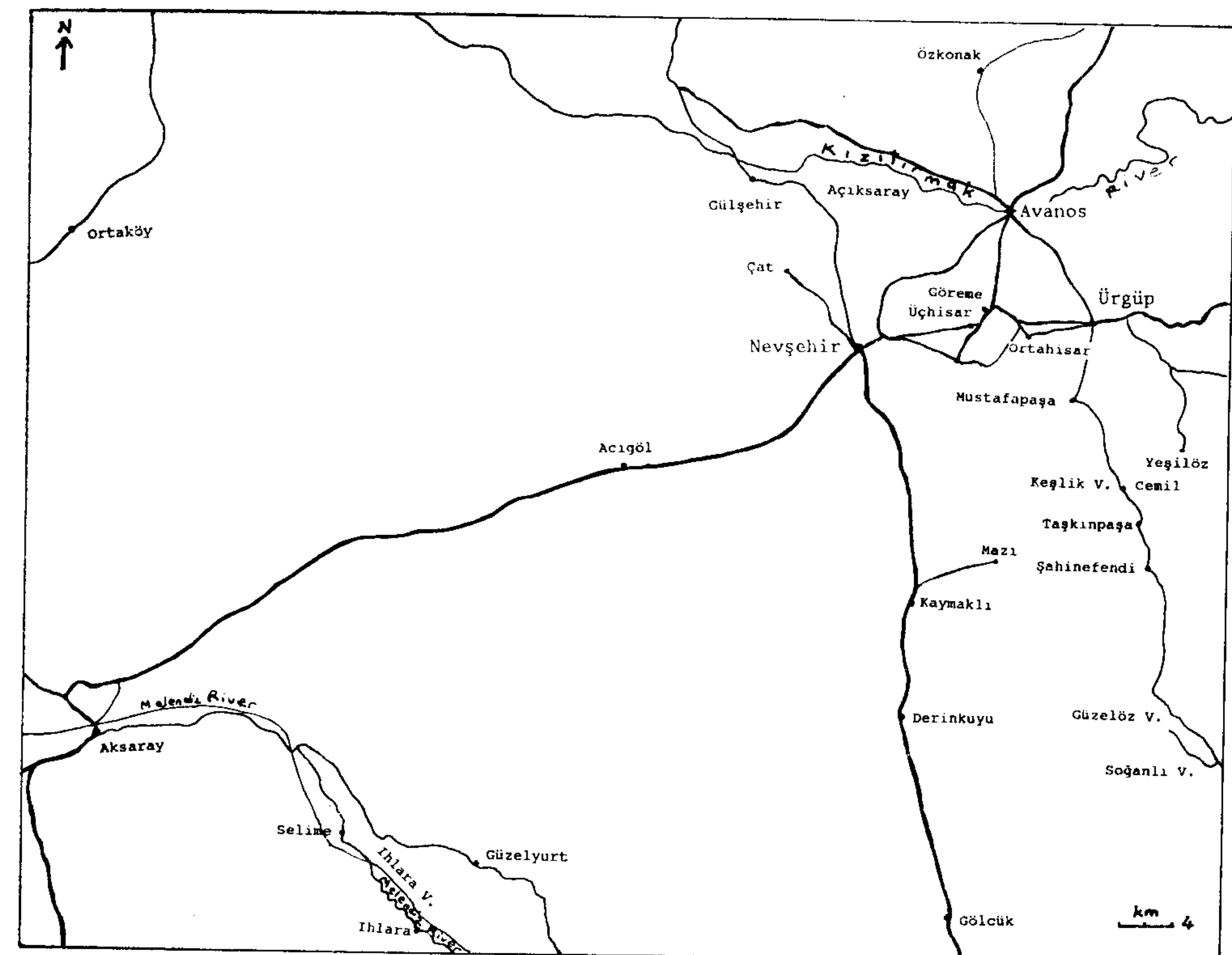


Figure 2 — Large Dispersal Area of the Fairy Chimneys.

With the fall down of capstones, erosion continues with collapse and deterioration of the fairy chimneys. As for the dimensions of the capstones, they change with respect to the cracking system and thickness of the lava area layer they were formed of. High and big capstoned fairy chimneys can be seen in Paşabağ location along Zelve direction and in Bağlıdere and Görgün creeks' valleys. Ihlara of about 15 km in southeast part of Aksaray in northwest-southeast direction between Selime and Ihlara villages is a canyon valley carved through a covering layer formed of lava and ashes erupted as a result of Hasan Mountain's volcanic activities. The are conical fairy chimneys without capstones between Selime and Yaprakhisar villages.

Badlands are other landforms attracting interest nearly as much as the fairy chimneys. Coming into appearance through li-neal erosion on clay and marl stones in the north of Avanos, these forms shall be defined as round, flat or sharp edged engravings formed on tuffs without a protective layer on slight slopes by surface erosion. Visually they can be described as covering a large area in the form of white waves, the best examples of which can be seen in Güvercinlik and Kılıçlar valleys (Photo 3). The natural

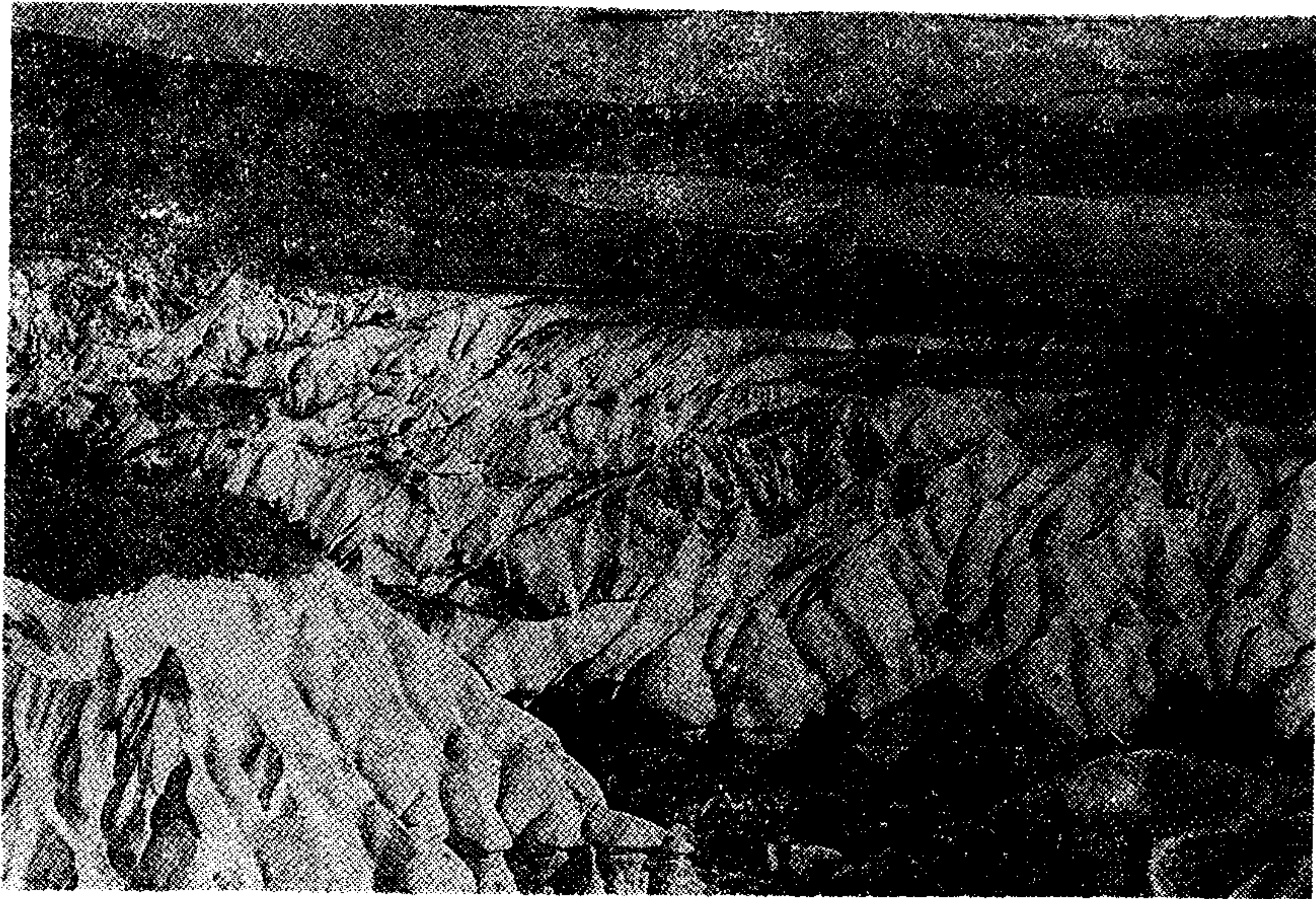


Photo 3 — Badlands relief, interesting as much as fairy chimneys.

landscapes which are important resources of nature tourism have different attractive forces changing with respect to the point of viewing. The concentration of interest at the most attracting points in viewing this landscape have made such points «sight-seeing places». As natural beauties are valuable to the extent that they are accessible in touristic respect, the sight-seeing places are in connection with transportation lines. The valleys attracting most interest in Ürgüp-Göreme district are on or near the motorway. While fairy chimneys of different forms, colours and dimensions visually attract people, only a few strange fairy chimneys

may also be that attractive and interesting. Devrent valley is famous with mostly pinky fairy chimneys resembling different animals, Kızıl (Ruddy) valley with its reddish and Bağlıdere valley with its high columnar fairy chimneys. The valleys remaining in the interior parts away from the motorway are less known while those along the transportation line (Devrent, Kılıçlar, Kızıl, Güvercinlik valleys, etc.) are visited more frequently. The sight-seeing points are also along the motorway line. Çatalkaya in Ürgüp's west with three fairy chimneys two of which are adjacent, Alibağı between Çavuşin-Avanos, Paşabağı between Göreme-Zelve have been sight-seeing points of interest (Photo 4).

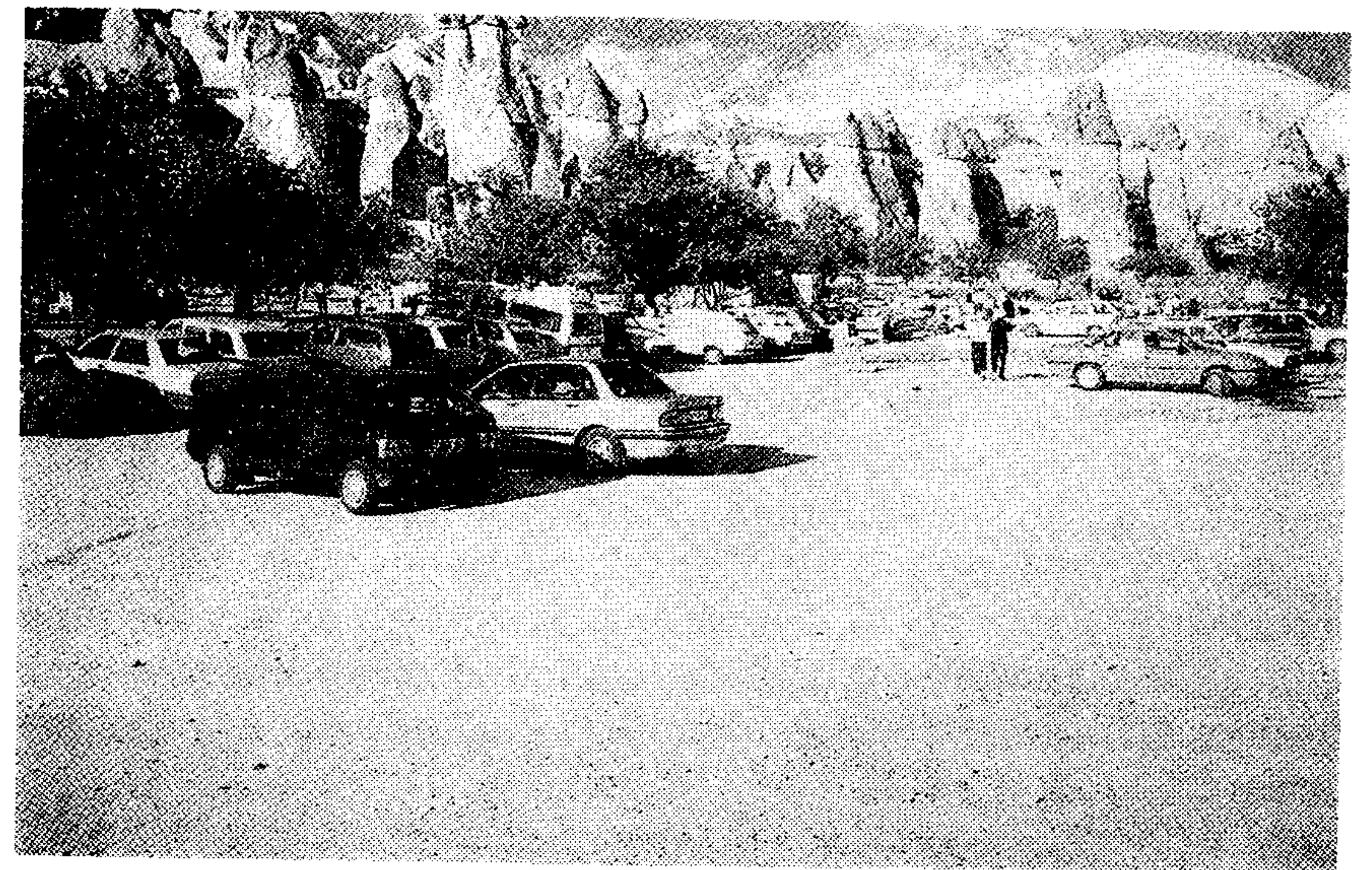


Photo 4 — Sight - seeing place in Paşadağ Location where there are high and large capstoned fairy chimneys.

Ihlara valley is a very attracting and interesting nature piece as a green, hidden and deep valley in the rural lands watered by Melendiz stream running through and with its steep slopes formed of ignimbrit exceeding 100 meter in some parts. It is possible to view the valley from the sight-seeing place in the entrance of the Open Air Museum 2 km away from Ihlara village in the south of the valley and from the stairs going down to the base of the valley.

The attractive appearance of the landforms not only change according to the difference of sight-seeing points but the times of the day as well. The wonderful view in Kızıl (Ruddy) valley during sunset attracts interest towards the evening. The fairy chimneys' attraction also differs among seasons which brings tourists to the district throughout the whole year.

«Horse riding» are being arranged to the valleys where the motorways can approach to certain parts. It is stated in the ancient Persian historical records that Cappadocia, once renowned for horse breeding, was called as «Katbatuka» which meant «The Land of Beautiful Horses»⁶. This historical reality increases the interest towards horse riding. Güllüdere valley of Çavuşin village is famous in this respect.

The most interesting and attractive of the high places allowing groups of people to view the natural landscape are Ortahisar outliers between Ürgüp-Göreme and Uçhisar outliers between Nevşehir-Göreme called as fortresses formed of ignimbrit by erosion. Aktepe (1110 m), a less known point compared to those two above which are on the motorway, visited for watching the light variations of the sun on the valleys at different times of the day being an outlier with a flat top (butte) and overlooking Kızılçukur, Güllüdere, Çavuşin, Zelve, Devrent valleys is another interesting sight-seeing place. However, plane, balloon or paragliding (parapent) are more attractive ways of watching the landscape from above in the air.

Fairy Chimneys in Culture Tourism :

By reason that most of the rocks in Ürgüp-Göreme district are soft and easy to engrave volcanic tuffs, the hill sides, the fairy chimneys and the ground were used for settlement purposes by way of engraving. This impressive landscape created collectively by men and the nature brings the district into a more attracting position. Therefore, it is possible to consider the valleys and

the fairy chimneys of the district in two groups as those engraved and not engraved by men while those not engraved are included in nature tourism, those which were engraved are considered to be comprised by culture tourism as they are traces of ancient settlements and furthermore the churches and monasteries can be considered within religious tourism. The soft rocks were used for dwelling purposes by being engraved in cave forms and the underground was dug in many layers (rooms, cellars, graves, warehouses, ventilation holes) to make up underground settlements at times when security was under danger. The district's part under the ground is full of underground settlements, which are interconnected and not cleaned of soil yet, partly lightened and opened for touristic purposes, the mostly visited of which are namely Derinkuyu, Kaymaklı, Mazıköy, Tatların (Acıgöl) and Özkonak (Avanos) underground settlements. As for Ortahisar and Uçhisar fortresses, used as settlement units for safety purposes, there are many rooms and cisterns engraved but out of use at present. The interior of the fairy chimneys of 15-20 km height in the district according to their height and used as houses, shelters, warehouses, etc. Such fairy chimneys are more familiar in Açıksaray, Soğanlıdere, Göreme valleys and Uçhisar.

The first Christians in the district gathered to hide due to non-resistance of religious freedom and to introduce Christianity after its approval and admission and lived a religious life in seclusion. The religious settlement units were concentrated in valleys out of or near the villages formed of monasteries, churches, chapels, cellars, kitchens, dining halls and monks' rooms. The valleys underwent a serious population increase in 8th century A. C. mostly by people who rejected the ban of figures and religious description in Christianity. Göreme and Zelve valleys are the mostly frequented interesting places where remains of monastery life can collectively be observed. Göreme valley completely used as a religious settlement place is famous with its churches decorated with frescoes (Elmalı, Kazanlı, Çalıklı and other churches), monasteries for boys and girls, grave rooms, cellars, bishops' dining halls, store-rooms, and kitchens. No exact and definite evidence exist today as to when these monasteries were abandoned.

⁶ N. Baydur, Kültepe (Kaneş) ve Kayseri Tarihi Üzerine Araştırmalar (İstanbul 1970), p. 115.

The frescoes of the 11th century are proofs of people's existence at that time. Used as pilgrimage place by the Greeks in the 18th and the 19th centuries, Göreme valley was then opened for visit as an Open Air Museum in 1950.

Zelve valley is another place where collective monastery life can be observed. Two of the three fork-shaped valleys are connected to each other by a human-made tunnel. The valley had been important settlement place for the Christians between 9-13th. centuries. There are churches (Üzümlü, Geyikli churches) and chapels engraved into the sides of the hills. The place had then been used for settlement purposes by the Muslims after the migration of the Christians. As small mosque with a minaret serves as an example of this period. It is well-known that Zelve valley was used for settlement until 1952 but then discharged due to risk of collapse and is currently used as an open air museum. Göreme and Zelve valleys were recognized as one of the extra-ordinarily beautiful cultural and natural places on earth by the United Nations Education, Science and Culture Organization (UNESCO) on December 6, 1985 and was included in the World's Natural and Cultural Heritage. An area of 9752 hectares in the surrounding was placed under protection as a National Park on 25.11.1986.

Ihlara Valley, too, was used a religious settlement place and churches were engraved into the hillsides formed of ignimbrit along the valley. Today, only 12 of many churches, the most important of which can be named as Ağaçaltı, Püren Seki, Kokar, Yılanlı, Sümbüllü and St. George, are serving tourism. The rocky houses on Belisırma hills of Ihlara valley were, similar to those in Zelve, used for dwelling purposes until 1950 and then discharged. Ihlara valley, between Selime and Ihlara villages, a wonder of nature and culture, was announced as «Special Protection Area» in 1990 (Official Gazette dated 21.11.1990 No. 20702).

The remains of religious life in the district are observed as churches, monasteries, monks' rooms, etc. separately or collectively around the settlement places and in the valleys. The churches in Güllüdere, Halaçdere, Kızılçukur, Soğanlı, Güzelöz valleys, the bishops' prisons, dining halls and chapels in Açıksaray valley, the bishops' prisons in the southern part of Çavuşin village and in

Keşişler (Monks) valley and Kılıçlar church in Kılıçlar valley, important places in religious history, are subjects of religious tourism with respect to their undeniable eminence in history of religion.

The other forms engraved by men into the outer surfaces of fairy chimneys and the hillsides are called as pigeon-houses are nests of pigeons (*Columba livia*) the manure of which are used for agricultural purposes. The use of pigeon manure in viniculture caused the hillside to become full of nests prepared for them. Üzengi Creek's valley, 2 km. at Ürgüp's south and Güvercinlikler Valley in the north of Çat are renowned for layers of pigeon-houses engraved into the sides of the hills.

The characteristics of today's settlement units in the district are also important for tourism. The architectural structure and appearance of houses partially engraved in the hills around and between the fairy chimneys, made of rocks formed by the lithological structure are in complete harmony with the landforms (Göreme Village). Homogenous and compact tuffs, yellow and pink streaked ignimbrit have been used as building stones, while basalt and andesite as the basement stones. The colour of the rocks used is also a determinative element in creating the colour of the town's pattern. While Ürgüp White, a characteristic tone of white, is dominant in Ürgüp, it is replaced by a yellowish colour in Nevşehir. The samples of Turkish Greek architecture in Mustafa Paşa village are also outstanding contributions to culture tourism.

Manufacture of earthenware utensils among souvenirs the raw material of which is supplied around in the district has been continued in Avanos still with wheel-benches used since Hittites. Figures of fairy chimneys, pigeon-houses and miniature examples of historical buildings are made from pumice stone in Ürgüp.

A marble type commonly used in making souvenirs and introduced an myx is brought from cities out of Nevşehir which can be named as Çankırı, Bilecik and Eskişehir⁷.

7 E. Göney, «Nevşehir ve Ürgüp Yöresinde Turizm Sunusu Olarak El-Sanatları» *Türkiyemiz*, no : 48, 1986. p. 24.

Development of Tourism and Touristic Services :

The secret part of nature, quite suitable for most people deciding to live in seclusion apart from the society was made known to the Europeans by books of travelers and the explanation as to the formation of these landforms which are perceived to be quite interesting and strange was later on brought into light by researches of scientists. French Paul Lucas, who set out for a journey to observe the eastern countries in the 18th century mentioned a great deal in his two books written after his return about the conical landforms and the settlers inside and drew gravures of the district⁸. Charles Texier was quite impressed by this district which he traveled about in 1833 and 1837 and he also spoke a lot about it in his work⁹. W. J. Hamilton, too, was one of those who admired the fascinating allure of the place and had considerable contributions in promoting it by widely explaining and introducing its qualities¹⁰. It is Gilluame de Jerphanion who provided a wide-scale recognition and notice of the district's rocky churches by studying and researching between the years 1907-1912, making a determination of the churches, monasteries and similar works of art and performing a classification of them. His work has been of most avail in making the district famous around¹¹. Observation and examination by geologists and geomorphologists of the district which was initially approached due to the religious qualities it possessed has put forward that the landforms, mythologically referred as the fairy chimneys, were erosive tuff rocky cones. It has always raised a gradually increasing interest for the researchers that the religious buildings were hidden and researches have continually unearthed new ones until recent years and the ex-

8 Paul Lucas, 1712 *Voyages du Sieur Paul Lucas fait par ordre du Roy, Dans la Grece, L'Asie Mineure, La Macedonie et l'Afrique*, Paris.

9 Charles Texier, 1882, *Asie Mineure, Description, Geographique, Historique et Archeologique. Livre VII. Cappadoce : 500-577*, Paris.

10 W. J. Hamilton, 1840, *On the Geology part of Asia Minor Between Salt Lake of Kodj-Hisar and Caesarea Cappadocia*, London, *Transaction Geological Society* (2), 5,583-597, London.

11 . D. Jerphanion, 1936, *Une Nouvelle de l'Art Byzantine, Les eglises rupestres de Cappadoce*, Paris.

ploration of underground settlements has still not been completed today. The district, therefore, is still attracting interest with its mysterious nature extending back to hundreds of years.

The increasing attraction and interest towards the district coming both from religious scientists and researchers and tourists interested in culture resulting in an ever-increasing visitor number has made it imminent to render some specific services. Göreme valley was started to serve as an open air museum in 1950 and the upper floors of Derinkuyu underground settlement were unearthed and opened for visit as a museum in 1965.

Transportation and accomodation facilities have taken the first part in giving such touristic services were started to be built in Nevşehir as of 1970. Despite the fact that Ürgüp was initially the tourism center of the district owing to its suitable location on Nevşehir-Kayseri motorway, the motorway built in 1977 and passing through Avanos resulted in development of Avanos founded on both sides of Kızılırmak River. There is even a bazaar in Avanos where partially touristic goods (carpet), kilim, marble, earthenware utensils) are sold.

The most significant and outstanding progress in tourism is the increasing number of accommodation facilities such as hotels, motels, pensions and camping places. The organization of such accommodation facilities was formerly carried out by restoration of historical houses (A Greek Style Mansion in Mustafa Paşa) and other buildings (Historical School Building for Turkish Greek Girls in Güzelyurt) and 4-5 star hotels were then built on the motorways after the end of 1980 s. Such luxury hotels are built towards Nevşehir-Kayseri motorway in Ürgüp, towards Nevşehir-Ürgüp motorway and along the coast of Kızılırmak River in Avanos and towards Ürgüp and Üçhisar motorway in Nevşehir. There is a hotel built by being completely engraved into the rocks in Üçhisar. Entertainment facilities built under the ground by engraving soft tuffs are to be valued as different and pleasant touristic services.

The transportation around and through the district is realized over Aksaray-Nevşehir line disjoining from Ankara-Adana motor-

way at Aksaray and following the ancient caravan road along which remains of caravanserais subsist (Alayhan, Ağzıkarahan, Tepesidelik Caravanserais). This road is connected to Ankara-Kayseri motorway through two branches over Gülşehir and Avanos after Nevşehir. Nevşehir is also connected to Kayseri over Ürgüp. In addition to transportation to the attractive valleys in Avanos-Nevşehir-Ürgüp triangle, transportation to Derinkuyu, Kaymaklı underground settlements and Soğanlı valley is also possible through the present motorways. As for Ihlara Valley, transportation to the place is made over the motorway separated from Aksaray-Nevşehir motorway following the west side of the valley reaching Ihlara village passing through some points with best views of Ihlara Valley.

The district is quite well-known and interesting as regards foreign tourism. For example, in 1995, 285.570 tourists were entertained in tourism certificated facilities of Nevşehir, Avanos and Ürgüp (average boarding time 2 days) the 179.897 of which were foreign visitors namely from France, Germany and Italy. In 1994, 1.976.262 tourists (549.103 Turkish visitors 1.427.159 foreign visitors) visited museums in Nevşehir (Göreme Open Air Museum, Zelve Historical Ruins, Çavuşin Church, Özkonak, Derinkuyu and Kaymaklı underground settlements).

Conclusion :

Ürgüp-Göreme district where the fairy chimneys cover a large area are one of the places initially opened to tourism in the beginning of 1960 s. The district started to be known as a religious settlement after 18th century in the foreign countries. Then the scientists were attracted by the historical character of the fairy chimneys like exhibiting traces of geological eras and their researches were great aids in the promotion of the district.

Fairy chimneys are highly exquisite landforms as regards nature tourism. These gracious landforms appear to produce a extraordinary, excellent painting prepared by the nature with respect to colour and intensity.

The soft composition of tuffs allowed building of religious works of art such as churches and monasteries by engraving the interior of the fairy chimneys and hillsides and the public engraved houses, fruit depots and pigeon-houses into the volcanic tuffs together with the monks' rooms. The soft tuffs engraved for above purposes has apparently changed the panorama of the district to a very impressive sight. Such religious buildings, houses, underground settlements attract the attention around the basis of culture tourism.

A harmonious vista presenting integration of the fairy chimneys where nature and culture (history and religion) are closely related with the rural life has always been a significant factor for tourism. Location of the fairy chimneys around under-populated settlements (Ürgüp 11.040, Avanos 10.010, Göreme 2.452, Üçhisar 3.159, Çavuşin 839, Ortahisar 3.543, 1990 Census) also allows observation of rural life which produces a potential for rural tourism. Manufacture of handicrafts such as earthenware utensils, carpets and souvenirs made of marble are explained to the tourists in the workshops in the atmosphere of a presentation or show. This service based on elements of rural tourism is followed with great interest by tourists desiring to know about this way of living.

However, development of tourism has inevitably brought some problems together, Protection of the fairy chimneys, the main resource of touristic activity in the region shall be the leading necessity with this point of view. The fairy chimneys formed of tuffitic rocks are self-protected by a natural covering shell up to 3 cm. thickness, but this protective shells are seen to fall along the crack formations. Fairy chimneys formed of rock types such as volcanic ash, clay and marl do not have such shells. The fairy chimneys are either broken down due to natural erosion or due to touristic entertainment units (café, discothequé, etc.) engraved there into which act as accelerative factors in the destruction of these natural wonders.

The gradual development of the touristic services rendered has resulted in a major increase of touristic activity in the district. Unfortunately, the motorways passing through the valleys which

evolved in the nature throughout millions of years caused a great damage on the fairy chimneys (Kılıçlar and Pembe - Pinky Valleys). The motorways going into the valleys should not be allowed and footpaths crossing the valleys along certain routes should be planned in the district to result in an increased interest towards rural tourism. This maneuver will also prevent damages given to the cultivated lands while making an excursion around the fairy chimneys. The sight-seeing places and the valleys are being occupied with souvenir sellers who are proceeding towards the inner parts of the valley. These sellers should be grouped out of the valley at the entrance points (car parking lot, buffet, souvenir and book sellers, etc.) as in Göreme, Zelve and Ihlara valleys.

The touristic accommodation facilities appear in the form of high capacity hotels during the recent years. Though once built out of the city and on the main roads, these hotels now seem to have risen up as high points of the surrounding due to erosion spoiling the natural appearance and resulting in a disconcertant view as regards rural life. Therefore, the solution should be construction of motels instead of hotels and supporting home-pensioning to protect and maintain the natural landscape and civil architecture.

Lighting of natural monuments which seems to be an attractive way of showing this natural beauty will be as much stimulating as lighting of historical works of art. In this respect, lighting of the fairy chimneys in the valleys near the motorways will completely create an impressive sight worth seeing.

Tourism has been specifically concentrated on some valleys (Göreme, Zelve and Ihlara) and underground settlements (Derinkuyu, Kaymaklı) in Ürgüp-Göreme district. However, the district has a larger potential of tourism with valleys, churches, underground settlements and historical works of art (caravanserais, etc.) scattered on a wide landscape which can be toured in an average time of 2 days and the natural, cultural and historical characteristics of the district seem to have enough attraction for interested tourists to visit the place times and times again in following years.

B I B L I O G R A P H Y

- Arık, A. «Avanos (Nevşehir) Yöresinin Jeomorfolojisi» Jeomorfoloji Dergisi, no : 10, pp. 139-154, Ankara, 1981.
- Baydur, N. Kültepe (Kaneş) ve Kayseri Tarihi Üzerine Araştırmalar, İ. Ü. Edebiyat Fak. Publ. No. 1519, 1970, İstanbul.
- Emre, Ö-Y. Güner. «Ürgüp-Uçhisar (Nevşehir) Yöresi Peribacalarının Morfojenezi, Jeomorfoloji Dergisi, no. 16 pp. 23-30, Ankara, 1988.
- Güney, E. «Nevşehir ve Ürgüp Yöresinde Turizm Sunusu Olarak El Sanatları», Türkiyemiz, Year : XVI, pp. 48, no. 21-26, İstanbul, 1986.
- Güney, E. «Göreme Vadilerinde Doğal ve Kültürel Değerlerin Korunması», Ulusal Çevre Sempozyumu (12-15 November 1984 Adana) Ankara, 1986.
- Güney, E. «Nevşehir Yöresinde Yeraltı Kentleri» Turizm Yıllığı 1988, pp. 93-104, Ankara.
- Sür, Ö. «Nevşehir ve Ürgüp Çevresinde Jeomorfoloji Araştırmaları» Coğrafya Araştırmaları Dergisi, no. 1, pp. 179-200, Ankara, 1966.
- Sür, Ö. Türkiye'nin Özellikle İç Anadolu'nun Genç Volkanik Alanlarının Jeomorfolojisi, A. Ü. Dil ve Tarih-Coğrafya Fak. Publ. No. 223, 119 p. Ankara, 1972.